Coaching in secondary and tertiary education

Ciff, Tatiana

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The effects of two interventions on students' well-being and teachers' stress

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by

Tatiana Ciff

born on 4 May 1977
in Târgu-Mureş, Romania

Supervisors
Prof. M.P.C. van der Werf
Prof. H. Korpershoek

Assessment Committee
Prof. W.J.C.M van der Grift
Prof. A. T. Harder
Prof. A. Opre

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Chapter 1 Introduction

1.1 Background of the study

Stress at work can affect anyone at any level. It can happen in any sector and in any type of organisation. Work-related stress, or occupational stress, affects the health and safety of individuals, but also the health of organisations and national economies (Robbins & Judge, 2017). According to the European Agency for Safety and Health at Work (2014), work-related stress was the second most often reported work-related health problem, affecting between 22% and 30% of the workers in the EU-27 in 2013. Moreover, the number of people suffering from stress-related conditions caused, or worsened, by work is likely to increase due to the economic changes that have been going on in the European Union since the beginning of the Economic Crisis in 2008. The ever-changing world of work is imposing increased demands on workers through downsizing and outsourcing, the greater need for flexibility in terms of functioning and skills, increasing use of temporary contracts, increasing job insecurity and work intensification (with higher workload and more pressure), and poor work-life balance (Matrix, 2013).

The European Agency for Safety and Health at Work (2014) claims that stress can cause people illness and misery, both at work and at home. Stress may also compromise workplace safety, and contribute to other work-related health problems. It can affect an organisation's bottom line significantly. The same agency conducted an extensive review of the costs of occupational stress and psychological risks per European Union country. They reported that the costs of work-related stress for Europe as a whole was estimated to be €617 billion annually. This total entails the costs to employers resulting from absenteeism (€272 billion), loss of productivity (€242 billion), health care costs (€63 billion), and social welfare costs in the form of disability benefit payments (€39 billion).

For the Netherlands alone, the European Agency estimated the costs at €14.9 billion for 2013 alone, representing almost 3% of the gross domestic product. An important finding in the report mentioned above was that workers who do "people work" are more susceptible to suffer from occupational stress compared to workers with other types of jobs. The first mentioned category of workers belongs to the service sector (education, information services, commodities, transportation services, health care and social assistance services, waste management services, security and investment sectors), is the largest working sector in the EU-27, encompassing almost 70% of the total working population. Moreover, the teaching profession was identified as one of the most stressful professions in the service sector, after the health care profession (doctors, nurses, etc.).

Teaching has often been identified as a highly demanding profession (Aloe, Shisler, Norris, Nickerson, & Rinker, 2014; Maslach, Schaufeli, & Leiter, 2001; Matrix, 2013; Nübling, Vomstein, Haug, Nübling, & Adiwidjaja, 2011), predisposed to occupational stress more than other professions. Teaching requires professional skills (e.g. pedagogical content knowledge, didactic and pedagogical skills, classroom management skills) and interpersonal skills (e.g. diplomacy, flexibility, to be sociable, optimistic, cooperative, to be able to work in a team) (McInerney, Korpershoek, Wang, & Morin, 2018). Additionally, teachers are expected to be effective, as reflected by the learning outcomes, behaviours and emotions of their students. The teaching profession has become more complex and demanding, and having to display the desired and necessary skills at high standards may act as stress triggers for teachers (Michael Bernard, 1990; ETUCE, 2012, 2014, 2015, 2016; Rogers, 2004, 2012).

Several sources of stress in the teaching profession have been identified in the literature. Prakke, van Peet, and Van der Wolf (2007) found the following sources to play a major role:

unsatisfactory social relationships and conflicts with adults, such as colleagues, head teachers, parents and inspectors; exposure to challenging behaviours from both parents and students, and work overload. Additionally, other daily stressors that were identified were: checking students' homework, preparations for school activities and lessons, and confrontations with difficult students (Greenglass, Burke, & Konarski, 1997). Bernard (1990) and Rogers (2004, 2012) suggest that the stress triggers that affect teachers the most are class stressors, related to students' cognitive, behavioural and emotional maladaptations. Students who present such maladaptive features represent important stress triggers for teachers because they, the teachers, are held (and mostly also feel themselves) responsible for students' learning processes and learning outcomes and need to deal with them on a day-to-day basis.

In The Netherlands, too, Smulders, Bossche and Hupkens (2007) observed that teachers experience a lot of emotional work-related stress compared to other professions. After comparing the different teaching levels (primary, secondary, and tertiary), they concluded that teachers who are the most susceptible to suffer from stress are the secondary education teachers between 30 and 40 years of age. The tasks that are perceived as stress generating for the teachers in secondary education, as reported by the Dutch Education Executive Agency (DUO, 2012), can be divided into three main groups. The first one refers to the tasks that are not directly related to classroom teaching, including the following activities: meetings, marking papers, correctional moments, coaching difficult students, and coaching sessions. The second stress generating factor refers to the lack of autonomy, that is, a lack of influence teachers have in deciding upon and planning their own activities. The third and final group of stressors is the physical, mental and emotional pressure of the job itself, which is more directly related to classroom teaching in general, and, in particular, related to dealing with malfunctioning students. The DUO report

states that this third group of stressors (also called student-related stress triggers) is the most important category of stressors among teachers. This is an interesting finding, because this could imply that improved student behaviour may also reduce student-related teacher stress. It could offer possibilities for implementing and evaluating new ways of reducing teacher stress, by connecting it to the main aim of this dissertation, which is to evaluate the effectiveness of a programme aimed at decreasing students' maladaptive functioning in class. More details on this objective are presented in the next paragraph.

Worldwide, the increase of students' behavioural and emotional maladaptations seems alarming (Bernard, 1990; ETUCE, 2012, 2014, 2015, 2016; Rogers, 2004, 2012). Ellis and Bernard (2006) described such maladaptations as a lack of motivation, cooperation and involvement, organizational skills, social-emotional skills, and emotional resilience skills. Because students with such maladaptations are at a high risk of underachieving at school, Bernard (2006) also classified them as underachievers. Such underachievers could become a source of stress for the teachers who work with them.

Student underachievement has been intensely studied for a long time by educational psychologists. Different researchers have defined underachievement and the underachiever in different ways. For example, Bernard (1997) defines the underachiever as the student/pupil who would be capable of performing better academically, but does not do so; Schaeffer and Millman (1981), describe the underachiever as the young person who sees little meaning in school, and who is not motivated to set goals and achieve academically; and Brophy (1996) describes the underachiever as the young person who does only the minimum to just pass, who is indifferent to what is going on at school, and who feels unchallenged and unmotivated.

According to the report issued by the World Health Organisation (WHO, 2016) based on the international survey performed in 2013/2014, 10-20% of the children and adolescents, worldwide present emotional and behavioural maladaptations and thus are at risk of becoming an underachiever at school. Two thirds of these children do not receive the help they need. The age group with the most recurrent emotional and behavioural maladaptations was identified to be secondary school pupils. This also explains why secondary school teachers were found to be the most prone to suffer from student-related teacher stress. In the Netherlands, the percentage of secondary school students with maladaptive behaviours and emotions has remained stable in the last decades within a range of 10% to 15% (Central Agency for Statistics, 2003; DUO, 2017; Institute for Social Research, 2005; the Dutch Advisory Board for Education (Onderwijsraad in Dutch), 2010). The latest report of DUO (2017) reported that about 20% of the first year secondary school students need assistance with their adaptation to and functioning in secondary schools. According to the WHO (2016) and some researchers in the field (Ellis & Bernard, 2006; Knaus, 1974; Onderwijsraad, 2010; Vernon & Bernard, 2006; Vernon, 2002), treatment of the children who display emotional and behavioural maladaptations would be more effective if interventions were to take place at an early stage in their lives. They also recommend that these early and timely interventions should be performed via social emotional programmes implemented in schools, because, from an early age, children spend a lot of time at school where they could acquire these missing skills should their parents/caregivers fail to provide these at home. They suggest that such programmes could lead to the decrease in and/or prevention of the incidence of mental health disorders during adulthood.

There are already several prevention-intervention programmes that are being used in schools to improve students' behaviour and their social-emotional functioning (Ellis & Bernard,

2006). The rational-social-emotional-cognitive-behavioural You Can Do It! (YCDI) Mentoring Program (2005) is one such programme, which has been implemented in various countries, but not yet in the Netherlands. Because of the promising results of the YCDI! Education approach reported in prior studies, the YCDI! Mentoring Program was selected as prevention-intervention programme for the studies described in this thesis. Details on the programme can be found in Chapter 4. Two intervention studies on two different target groups were performed in order to evaluate the effectiveness of the YCDI! Mentoring Program: one intervention study targeted on secondary school students and one targeted on tertiary education students. The choice to implement the Program on these two particular target groups is based on Bernard's suggestion that the Mentoring Program is suitable to coach young people between 12 and 18+ of age.

1.2 Purpose of the study and research questions

The first aim of the intervention studies was to evaluate the effectiveness of the YCDI! Mentoring Program (Bernard, 2005) on students' behavioural and emotional functioning. Bernard, who developed the rational-social-emotional-cognitive-behavioural YCDI! Education framework and YCDI! Mentoring Program, and Brown (1999) – the only researcher who reported on an experimental study on the Mentoring Program – claim that the programme may help those children and young people who are achieving less than their potential, more exactly underachievers. More concretely, they suggest that underachievers, who are taught to become more confident, persistent, organised, cooperative and emotionally resilient (5Keys), will present fewer maladaptive emotions and behaviours than those who are not taught the 5Keys (more details about the 5Keys and the Mentoring Program are to be found in Chapter 4).

An additional aim of the study was to explore the effects of the YCDI! Mentoring Program on student-related teacher stress, and whether this effect is mediated by the effects of the Program on students' emotional and behavioural functioning. The background for this aim was that students' emotional and behavioural functioning frequently appears in the literature as the main sources of stress for teachers (Bernard, 1990; DUO, 2012; ETUCE, 2012; Rogers, 2004, 2012). The effects of the program on student-related teacher stress was only explored in the intervention study among secondary school teachers, because the literature (DUO, 2012, 2017; ETUCE, 2012; Smulders, Bossche & Hupkens, 2007) suggests that this group of teachers experience this type of stress to a higher degree compared to teachers in tertiary education.

Two studies with an experimental-control group pre-posttest design were performed. The students in the experimental groups were assigned to the rational-social-emotional-cognitive-behavioural YCDI! Mentoring Program (Bernard, 2005) intervention, while the students in the control groups received a non-cognitive mentoring programme.

The first experiment was conducted in a secondary school in the North of the Netherlands. The study addressed the question on the effectiveness of the YCDI! Mentoring Program on students' behavioural and emotional maladaptations, as displayed in their level of confidence, persistence, organisation, getting along and emotional resilience (5Keys). Moreover, the study addressed the effectiveness of the Mentoring Program when implemented on students with the purpose of reducing student-related teacher stress. The research questions were as follows:

1. What is the effectiveness of the YCDI! Mentoring Program on secondary school students' level of confidence, persistence, organisation, getting along and emotional resilience?

2. What is the effectiveness of the YCDI! Mentoring Program on secondary school underachievers' level of confidence, persistence, organisation, getting along and emotional resilience?

Based on the earlier studies of Bernard (2008) and Brown (1999), it was hypothesised that the Mentoring Program would have a positive effect on the five behavioural and emotional aspects mentioned before (the 5Keys), that is, students in general and underachievers in particular will display these 5Keys to a higher degree after being exposed to the Mentoring Program compared to the students in the control group. With regard to the teachers, the research questions were:

3. What is the effectiveness of the Mentoring Program on the student-related teacher stress level?

4. To what extent can the change in the level of student-related teacher stress be explained by the level of behavioural and emotional change among students in general and underachievers in particular?

We expected that the level of student-related teacher stress would decrease more among the teachers who were exposed to the programme in comparison to the teachers in the control group. If that expectation was confirmed, the next step would be to examine whether the decrease in teachers' stress level in the intervention group is related to the increased levels of the 5Keys among students in that group.

The second experiment was conducted among first year students of an Applied Sciences University in the North of the Netherlands. The goal of the intervention was to teach students to become more confident, persistent, get along, become organised and emotionally resilient in order to adjust better and faster to college requirements of higher professional education. The

same YCDI! Mentoring Program (Bernard, 2005) was used as in the first experiment, but adapted to the specific age group. Unlike in the first experiment on secondary school pupils, in the experiment on college students, no distinction was made between students in general and underachievers in particular. More details about the reasons for this choice are presented in Chapter 5. The specific research question for the second experiment was:

5. What is the effectiveness of the YCDI! Mentoring Program on college students' level of confidence, persistence, organisation, getting along and emotional resilience?

Similar to the first experiment, we expected that the Mentoring Program would yield a positive effect on the 5Keys, that is, college students in the experimental group will display these 5Keys to a higher level after being exposed to the Mentoring Program compared to the college students in the control group.

Performing the two experiments on two different target groups with two similar research designs added some new elements compared to other studies that have used the YCDI! Education framework (this framework is the very approach used in the YCDI! Mentoring Program). Firstly, implementing the YCDI! Mentoring Program and evaluating its effects in experimental studies was a pioneer endeavour, and it was, as confirmed by the YCDI! Education foundation spokesperson Patricia Bernard, the first attempt made here in The Netherlands at the time of the beginning of this study, and second worldwide after Brown's (1999) experiment. Secondly, a new aspect in the design of the first experiment was the integration of the "student-related teacher stress" variable in the secondary school study. Until now, there has been no intervention study, to our knowledge, that has studied student-related teacher stress in combination with an attempt to improve student maladaptive behaviours and emotions. Thirdly, the implementation design in the second experiment among the college students introduced a

modern way of coaching students that combined face-to-face and online contact moments between the mentor and mentees, which has not been used in prior studies using the YCDI! Education framework. And lastly, the sample included in the experiment in the secondary school was rather large when comparing it to Brown's (1999) study. Using a larger sample results in increased confidence of the measurements, decreased standard error, increased precision of the estimates and as a result an increased reliability of the findings.

1.3 Outline of the thesis

This thesis consists of seven chapters.

Chapter two is a review of the literature that analyses the many facets of student-related teacher stress over the last 30 years. The following questions were addressed in the literature review: How does the literature define teacher stress, and what stress model represents teacher stress the best?, To what extent do teachers experience stress and how did it change over the time frame from 1990 up until now?, What educational sector (primary, secondary, or tertiary education) was identified as the most stressful for teachers?, To what extent do teachers in the Netherlands experience stress, in particular student-related teacher stress?, and What are the strategies proposed in the literature that might help reduce student-related teacher stress?

Chapter three, which is a review of the literature on student underachievement and maladaptive emotions and behaviours, addressed the following questions: What are the characteristics of underachieving and/or disengaged students, how is underachievement and disengagement related to behavioural and emotional functioning, and how could this relation be explained?; and secondly, which external factors are influencing the development or maintenance of behavioural and emotional malfunctioning?

Chapter four includes a detailed description of the Mentoring Program which was implemented in the experimental groups. The chapter starts with a description of the theoretical background of the YCDI! Education framework, followed by the description and the goals of the YCDI! Mentoring Program. The final section of this chapter reviews de results of intervention studies that have implemented the YCDI! Education framework and YCDI! Mentoring Program.

Chapter five describes the research methods used in the two studies. It specifies the research questions and hypotheses, the designs of the studies, the samples, the variables, the measurement instruments of data collection, the procedures and data analyses.

Chapter six reports on the results of the descriptive and inferential analyses in relation to the research questions and hypotheses. The results are organised per experiment and research question.

Chapter seven provides answers to the research questions, followed by the conclusions, and a discussion of the findings. Also, the strengths and weaknesses, and limitations are discussed, as well as the scientific and practical implications.

Chapter 2 Student-related teacher stress

2.1. Introduction

As explained in the introductory chapter, teacher stress which is related to maladaptive student behaviours and emotions (from now on referred to as student-related teacher stress), is one of the issues addressed in this study. Researchers like Bernard (1990), Rogers (2004, 2012) and other authors of international studies claim that the behavioural and emotional maladaptations of students are an important source of stress especially for secondary school teachers. Therefore, this chapter presents a review of the literature that critically analyses the many facets of student-related teacher stress over the last 30 years. This literature review was performed in order to carefully identify the student-related teacher stressors in order to design the instrument for measuring student-related teacher stress that was used in the first experiment. Additionally, the background information acquired from this literature study, was also used to decide whether to measure student-related teacher stress in the second experiment on college students, or not.

For this literature review the systematic review approach SALSA (search, appraisal, synthesis, and analysis) was applied (See Booth, Sutton & Papaioannou, 2016). For the search stage, a systematic and comprehensive literature search was performed in electronic databases (EBSCO host, Google Scholar and useful and reliable websites as gateways to other sources) and academic libraries. Search terms were: teacher stress, stressors/sources of stress in teaching, teachers' stress experience, strategies for reducing teacher stress. For the appraisal stage, a further selection of the literature that resulted from the search was made. The following types of studies were included. First, primary sources, like reports of the ministry of education, governmental and non-governmental reports and surveys, scholarly peer-reviewed studies.

Second, secondary sources, like books and review articles written by academics based on prior research. Third, all primary and secondary sources needed to cover the time frame from the beginning of the 70's until recently and to focus mainly on Europe and the Netherlands. Finally, the sources had to be representative considering the number of citations in multiple other studies). All other studies that did not meet the inclusion criteria or were not published in English were excluded for the next two steps, the synthesis and analysis. The information extracted from the selected studies was synthesized and categorized per period, from the 70's up to the present, context (international and Dutch context), and educational sector (primary, secondary and tertiary education). Finally, the synthesised information extracted from the selected sources was analysed to get answers to the research questions formulated below.

The first question is: How does the literature define teacher stress, and what stress model represents teacher stress the best? Answering this question was important for the choice of the research method and content of the measurement instrument (Section 2.2). Next, to what extent do teachers experience stress and how did it change over the time frame from 1990 up until now? What educational sector (primary, secondary, or tertiary education) was identified as the most stressful for teachers? Finally, to what extent do teachers in the Netherlands experience stress, in particular student-related teacher stress? The answers to these questions were relevant for choosing the target groups of the studies (Section 2.3). What are the strategies proposed in the literature that might help reduce student-related teacher stress? (Section 2.4). The answer to this question was important in order to identify the suggested approaches to decreasing student-related teacher stress in the literature. Finally, the main conclusions are summarised in Section 2.5.

2.2 Definition and teacher stress model

For this study, the definition of teacher stress proposed by Michael Bernard (1990) was adopted. He defines teacher stress as an interaction: "a process […], a by-product between you [the teacher] and the outside world"; "the way you, as a teacher, react and adapt to demands and threats you encounter in teaching". It is: "the product by your outside world and your inside world." (pp. 9-10). Bernard categorizes the outside world stress triggers into: the general life triggers; the community and parental triggers; the demands of the department of education/school council policy; organisational triggers; classroom triggers; and (lack of) support. The inside world triggers are defined as "your attitude to what goes on in your classroom, towards your colleagues, school administration and change, as well as your attitudes to major life events and to outside triggers at home"; coping skill repertoire (assertion, etc.); and lifestyle (recreation, exercise and diet) (pp. 9-10). In short, Bernard suggests that teacher stress is the product of what happens/the trigger (a lot of tests to check and too little time; maladaptive student behaviour, too many administrative tasks, etc.), how the teacher appraises the trigger (stressful, unbearable, unacceptable, doable, etc.) and how the teacher reacts (angrily, frustrated, calmly, etc.).

Bernard's teacher stress definition is rooted in and explained by Lazarus' Transactional Model of Stress and Coping (Lazarus, 1991; Lazarus & Folkman, 1984, 1987). This model assumes that a person's response to stressors is determined by the personal interpretation and assessment of the external/internal stressor(s) which subsequently triggers positive and/or negative emotional responses. During the cognitive assessment process, also called the appraisal phase, the person consciously or unconsciously decides if the stressor is relevant or goal congruent. Lazarus suggests that our emotions are triggered only by the incidents that we

consider important/relevant to our goals, values, ambitions, standards or needs. Thus, the triggers/incidents that are considered goal incongruent trigger unpleasant emotions as anxiety, fear, anger, negative emotions, which can all be summarised under the broader concept of stress. Similarly, when the accomplishment of the goal is achieved according to the goal, positive emotions are experienced. According to this model, the intensity of stress is strongly correlated with the importance of the goal that is threatened. In the context of the present study, this goal is related to how important teachers consider students to display appropriate behaviours and emotions. Studies have found that there is great variation between teachers when it comes to the intensity of perceived student misbehaviour and conflicts with the students (Bernard, 1990; Ellis & Bernard, 1988, 2006; Mashburn, Hamre, Downer, & Pinta, 2006; Sharp & Forman, 1985). Furthermore, studies have also found that different teachers reported different levels of stress when exposed to the same disruptive student behaviour contexts (Abidin & Robinson, 2002; Chang, 2009; Chang & Davis, 2009; Greene, Abidin, & Kmetz, 1997; Greene et al., 2002; Spilt, Koomen, Thijs & Van der Leij, 2012).

Thus, teacher stress can be described as a conglomerate of emotional and behavioural reactions due to a lack of balance between a teacher's self-coping and protective skills and the multiple stressors, and teachers' personal beliefs and level of rationality, which are determinant in moderating the level of stress (Abrams & Ellis, 1994; Bernard, 1990; Ellis, 1994; Ellis, Gordon, Neeman & Palmer, 2001; Klarreich, 1985; Pang, 2012; Prilleltensky, Neff & Bessell, 2016).

2.3 Previous research on student-related teacher stress

In the 60s, the term *stress* started to be used in the literature of the teaching profession to describe the concerns and anxieties of teachers. Later, in the literature of the 70s the term *stress*

in teaching was introduced by Kyriacou and Sutcliffe (1978). In the last 40 years, different researchers and governmental and nongovernmental organizations have intensely studied teacher stress (Bernard, 1988, 1989, 1990; Brog & Riding, 1991; Brouwers & Tomic, 2000; ETUCE, 2001, 2007, 2011, 2014, 2016; Evers, Tomic, & Brouwens, 2004; Feltoe, Beamish, & Davies, 2016; Gable, Hester, Rock, & Hughes, 2009; Hastings & Bham, 2003; Kokkinos, 2007; Krause, Dorsemagen, & Alexander, 2011; Kyriacou, 2001; Lewis, 1999; Prilleltensky, Neff & Bessell, 2016; Sutton & Wheatley, 2003; Tsouloupas et al., 2010; to name only a few). The multitude of studies on stress denotes the fact that stress had an impact on the teaching profession and researchers felt it was necessary to explore, explain and search for solutions. An important finding from these extensive studies was that maladaptive student behaviours and emotions were directly and positively correlated with teacher stress, emotional exhaustion and ultimately burnout (Aloe et al., 2014; Burke, Greenglas, & Schwarzer, 1996; Friedman, 1995). Moreover, when listing the stress factors in the teaching profession, the student-related stressors were one of the first three factors in these studies. It was Bernard (1990) who ranked the student-related stress as the number one stressor in the 90s, but in the more recent years, other, new stressors have become important, as well.

When studying student-related teacher stress, it is important to keep in mind that there is no clear definition for student misbehaviour and maladaptation. Researchers in the field (Finn, Fish, & Scott, 2008; Houghton, Wheldall, & Merrett, 1988; Thompson, 2009) describe it as a combination of those behaviours displayed by students that disturb the teaching-learning process. Examples are: skipping or being late to class, speaking out of turn, disrupting the lesson, cursing, verbal abuse towards the teacher or other pupils in the class, noncompliance, bullying, gang and harassment activities (Fernet, Guay, Senecal, & Austin, 2012; Finn et al., 2008; Robers, Kemp,

& Truman, 2013). Furthermore, underachievement and disengagement were other factors labelled as student maladaptation and misfit (Bernard, 1997; see also Brophy, 1996; Schaefer, Watkins, & Canivez, 2001). Therefore, in this Ph.D. thesis, whenever reference is made to triggers of student-related teacher stress, this could pertain to any or all of these student-displayed behaviours and emotions.

In the next subsections a chronological overview of the literature on student-related teacher stress will be presented, firstly in a broader international context and secondly in the Dutch context.

2.3.1 International studies on student-related teacher stress

Below, the results of some chronological studies at European level performed by the European Trade Union Committee for Education (ETUCE) and The European Federation of Education (EFE) are presented. The purpose is to give an overview of the research conducted in the field of work-related teacher stress, which provides valuable insights into the identification of and change (if any) in student-related teacher stressors in the last decades in the European Union countries. In addition to the ETUCE studies, which are used as a guideline, other studies are referenced here to compare, contrast or validate the ETUCE results.

For this study, Bernard's (1990) definition of stress was adopted from his publication on teacher stress. His extensive research of teacher stress spanning five years resulted in his book which has greatly contributed to expanding knowledge of teacher stress. The contribution he made via this book will be succinctly presented below, because of its impact on the knowledge in the teacher stress field. In his book, he identified and classified the external and internal stress triggers for teachers. Additionally, he also summarised the main representative studies and books on teacher stress of that period. As a result, Bernard's book (1990) provides a

classification of the most and the least important stressors for teachers. He reported that world-wide, based on empirical studies gathering data via surveys, it was found that between 20% and 25% of teachers declared that they found their job very or extremely stressful while 50% of the participants found it moderately stressful. There was a small percentage of teachers (20%-25%) who declared that they did not suffer from stress.

In Bernard's (1990) classification of stressors in the teaching profession, the "breakdown in discipline" was identified as the main stressor for teachers. He observed, based on the studies he reviewed, that students' behaviour had deteriorated in the past two decades and they were less disciplined than the students in previous generations. They were less resilient, and they were undisciplined at home and at school. They tended to challenge authority, and sometimes misbehaved on purpose just to challenge the teacher's authority. He concluded that having students with such tendencies and undisciplined behaviours, made teaching a very difficult process, and maintaining class discipline was an excruciating effort and sometimes without effect.

Bernard's book made some important contributions to the field. Firstly, based on the multitude of empirical studies he reviewed and performed, he made a complex and detailed classification of the stressors for the teaching profession. Secondly, he himself spent years researching teacher stress, developing and validating a complex teacher stress survey that measured the frequency and intensity of teacher stress (Bernard, 1988, 1989; Bernard & Hajzler, 1987). Thirdly, which is of importance for this study, he proposed a definition of teacher stress which is in accordance with the principles of Rational Emotive Behaviour Therapy (REBT) (Ellis, 1957; Ellis 2003) and Lazarus' Transactional Model of Stress and Coping (Lazarus, 1991; Lazarus & Folkman, 1987). These aspects are relevant for the theoretical approach of this study,

because the YCDI! Mentoring Program (Bernard, 2005) which was implemented in the experimental groups is deeply rooted in the REBT approach (this is further explained in Chapter 4). Despite this undeniable contribution to teacher stress research, when checking the bibliographical sources used for the argumentation in his book, it was not always clear what was the exact research finding behind that particular piece of information. An explanation for this is that the book was written for the non-scientific teacher profession, and the reporting style and language were adjusted for that particular target group. Additionally, Bernard's explanation of teacher stress fails to provide a clear segmentation of the intensity of stress experienced by teachers in the sectors of respectively primary, secondary and tertiary education. This remains a weakness that may be found in other studies, too.

More than ten years after Bernard's 1990 book on teacher stress was published, in 2001, ETUCE published, in cooperation with the WHO, the results of a study on stress, including student-related teacher stress. The study relied on the data provided by the representatives of the EU member unions (16 countries), who selected important and relevant research studies, surveys and other relevant national documentation on teacher stress, published between 1994 and 2000. The only exception to this time frame was Norway, where the data were taken from research studies published in 1985. The aim of the ETUCE study was to identify the causes of teacher stress at European level, the effects of it, and to suggest approaches to prevent and reduce it. The study made clear that there was a unanimous agreement regarding the causes of teacher stress, including student-related teacher stress causes, irrespective of European country.

The student-related stress factors in the ETUCE (2001) study presented some differences compared to the classification made by Bernard (1990). In the first place, when talking about students, drugs, violence and aggression were mentioned as new elements, which caused even

more behavioural and emotional challenges for students, schools and teachers alike. A second student issue was the increased class size (more students per teacher), followed by a lack of pupil motivation, attention and interest, and a decrease in discipline. Another different factor was the difficult parent/teacher relations, due to the new demands regarding the roles a teacher had to fulfil (Byrne, 1991; Friedman, 1995) and the responsibility for overall student welfare. Unlike in Bernard's (1990) classification, there was a decrease in parent participation in the child's school and private life, which resulted in the fact that children brought to school their personal private issues. As a consequence, teachers were expected to play an active role in the moral and ethical rearing of children, and in certain cases to assist and counsel students for issues like divorce of the parents, eating disorders and adolescent pregnancy and abortion. Consequently, some teachers felt this role was too difficult and stressful (ETUCE, 2001; Forlin, 2001). Despite all these stress triggers, student-related teacher stress triggers were not found to be the main source of stress anymore, although they still remained an important category of stressors. It was rather the organisational structure that failed to equip teachers to cope with the challenges of their teaching tasks and multiple roles that was found more stressful. The teachers reported, at that time, that students' maladaptive behaviours and emotions were not perceived as the number one stressor anymore, as reported in Bernard's (1990) classification in the previous decade, but the third.

The next ETUCE EU teacher stress report in 2007 restated that teachers belonged to the profession reporting the highest levels of work-related stress. Some of the main causes they highlighted were the increasing workload, the role overload, the increased class size per teacher and, in line with previously presented causes of teacher stress, an increase in the number of pupils with unacceptable behaviours, thus student-related stressors. There was no change in the

ranking of student-related teacher stress between ETUCE (2001) and ETUCE (2007). It remained as the third ranked stressor among teachers. Unlike the data collected for the ETUCE 2001 (research studies, national documentation of different EU members), the data for the ETUCE 2007 were collected via a total of 38 teacher unions from 27 countries, representing three levels of education – primary, secondary and vocational. The study was initiated as a result of the joint forces between ETUCE and the United Nations International Children's Emergency Fund (UNICEF), the European Association of Craft, Small and Medium-Sized Enterprises providing Public Services (CEEP), with the aim to work together in order to reduce work-related teacher stress. The fact that the data were collected via teacher unions might to some extent have led to biased results. Additionally, the number of respondents was low (the exact number of teacher participants is not mentioned in the report). Moreover, the results of the study were not reported per educational sector (primary, secondary, tertiary) which makes it difficult to evaluate in which sector the stress problems were the most serious. Another weakness of the report is that the theoretical argumentation was not based on other empirical data, as was the case in the ETUCE 2001 report. Nevertheless, the findings of the ETUCE 2007 study confirmed the findings of other scientific studies on teacher stress from that period. For example, Weber, Welte and Lederer (2005) found that more than half of the teachers who retired early reported that they were affected by psychological and psychosomatic ailments. Furthermore, Weber et al. reported that about 43% of teachers were exposed to hostile student behaviours, and 4% were menaced and even physically assaulted by students. Despite the listed limitations, the ETUCE (2007) study proves to be useful because it offers a view on how EU teachers of the three sectors ranked stressors, on the one hand. On the other hand, another added value of the study is

that it was decided to take action and evaluate each teacher union member's action plan, and also to share experience amongst the members.

The last ETUCE (2011) EU teacher stress measurement registered a participation of 5,461 teachers from 499 schools from 30 EU countries, who filled in the teacher version of the validated Copenhagen Psychological Questionnaire (COPSOQ). Job insecurity was found to have the highest impact on their stress levels, which included factors like the fear of being relocated or remaining unemployed, due mainly to the economic crisis which began in 2008. The results of the cognitive stress test showed that the stressor mentioned most often was the "work-privacy conflict". The second one was "role-clarity". The third one the "noise and the voice strain" produced by large classes and by building-related factors, and "lesson disturbance". The lesson disturbance factor included inappropriate student behaviours and emotions. These three categories showed strong correlations with high cognitive stress levels and burnout. From these three categories, students' behavioural and emotional issues were again ranked as the third main stress factor.

The ETUCE stress study of 2011 made use of a psychometrically validated measurement instrument based on earlier empirical studies (Abel & Sewell, 1999; Bauer, 2009; Bradley, 2007; Krause et al. 2011; Parent-Thirion, Fernández Macías, Hurley, & Vermeylen, 2007), which increased the validity and reliability of the data. The survey was conducted with the same instrument in all 30 EU countries, which makes this study one of the largest comprehensive studies on teacher stress ever performed in Europe, known so far. At the same time, a limitation of the study is representativeness (17.3% response rate on the basis of 31,534 teachers in 499 schools; countries are not equally represented). Another limitation is that, as it was the case in earlier reports, they did not present the results per school type (primary, secondary, tertiary) or

region. Despite these limitations, this study represents the best empirical data base that describes the psychosocial status of teachers in Europe.

The European financial crisis, that started in 2008, put extra pressure on the teaching profession, as reported in the ETUCE (2012) report. In that study, data were collected among 31 teacher trade unions from 15 EU and 2 non-EU countries, aiming to evaluate the impact of the financial crisis on initial formal teacher education, career possibilities of beginning teachers, teachers' professional development opportunities, teachers' functioning and student-related teacher stress. The sectors covered were: early childhood education, primary education, secondary education, vocational education and training, and higher education. It was concluded that all countries of the EU had experienced negative consequences in the education sector, in different degrees, due to the economic crisis. Public budgets were cut, some faculties for initial teacher education were shut down (e.g. in Germany, Denmark, France, Italy, the Netherlands, Sweden and the United Kingdom), and as a result many teachers were dismissed. The dismissal of teachers resulted in an increase in working hours and bigger class sizes for other teachers. In addition, teachers experienced an increased level of student-related teacher stress - according to the ETUCE (2012) report – probably due to the fact that they had to work with larger classes. Consequently, some of the teachers chose another profession (attrition), or they retired early (Borman & Dowling, 2008).

In the same time frame, other empirical studies performed in different countries found significant correlations between disruptive student behaviour and teacher burnout (Chang, 2009; Hakanen, Bakker, & Scaufeli 2006; Kokkinos, 2007; Skaalvik & Skaalvik, 2011). Additionally, Aloe et al. (2014), in their thorough meta-analysis on student misbehaviour and teacher burnout, reported that strong correlations were found for young teachers between teacher

depersonalisation and burnout and student misbehaviour. Furthermore, the same meta-analysis revealed that student disruptive behaviour was more recurrent in secondary schools than in primary schools or higher vocational schools and universities (Nickerson & Martens, 2008). It was also found that relatively young secondary school teachers were more prone to suffer from stress and later develop a burnout due to student misbehaviour. The conclusions drawn in these studies validate the ETUCE (2012) conclusion, that time and again, complex and multifaceted student disruptive behaviour and emotions remain a source of stress for teachers. It was shown that due to the economic crisis that resulted in budgetary cuts, funds and programmes for the mentoring of new teachers have been minimized. Cutting funds for preparing new teachers has resulted in poor preparation for a teaching career, and in particular in unpreparedness for how to deal with the job requirements and problematic student behaviour.

To sum up, student-related teacher stress has undergone a shift in self-reported teacher stress in the last 30 years, no longer being a number one factor as ranked by Bernard (1990), but it has remained one of the first three mentioned stressors after the administrative tasks of a teacher. This is likely due to teachers experiencing a "noticeable increase in high-stakes accountability demands, administrative tasks and standardization" in the course of these years which has resulted in more teacher responsibility and bureaucracy (Van Droogenbroeck, Spruyt, & Vanroelen, 2014). Despite this shift, the findings presented in the previous paragraphs clearly suggest that teacher-student conflicts and students' maladaptive behaviours still trigger stressful thoughts and emotions among teachers.

The results of the ETUCE EU reports used in this section provide a relatively clear picture of the impact of teacher (student-related) stress at the EU level, but they also show some limitations. For instance, the failure to present the data per EU country or educational sector

(primary, secondary, tertiary), the representativeness of the samples is questionable, and the data were collected by the teacher unions. Additionally, one should be cautious when interpreting the findings, which are all based on teacher self-reports. Due to these limitations we should be careful with generalizing the EU findings to specific EU countries, and therefore, it is necessary to explore the Dutch context, which is the very context of this research project.

2.3.2 Studies in the Netherlands

In the Netherlands, national measurements of teacher stress levels have been performed via surveys, most recently in 2012, 2014, 2015 and 2017. Given the aim of this study, only the findings for secondary and higher vocational education are presented here.

The 2012 report of DUO concluded that the teachers most prone to experience high levels of student-related stress were teachers working in the secondary education system, which is in accordance with the findings reported in European and international studies presented in the previous section (Nickerson & Martens, 2008). According to the report, the geographical position is also significant, with a higher teacher stress level in secondary schools in highly-populated places such as Amsterdam, The Hague and Rotterdam. Almost 67% of the teachers reported that they did not have enough energy to do other things after a day of work, 74% of the teachers stated that they were sometimes stressed out by work, and almost 41% found it difficult to concentrate at work. Furthermore, almost 49% regularly went to work feeling they had not got enough rest, and 47% reported health problems which they thought were work-related.

In the same report (DUO, 2012), secondary school teachers also reported experiencing work pressure due to several specific triggers, which were grouped into three categories. The first category of stressors included the tasks that were not directly related to teaching a class, such as staff meetings and discussions. Assessing papers and assignments was another factor in

this category, followed by student-related issues including coaching and mentoring students, and taking care of students with behavioural and emotional needs. Thus again, we see that student-related stress is one of the main causes of teacher stress, also in the Netherlands. Many early-career secondary education teachers reported having left the teaching profession in the first five years after graduating because they found it too difficult, and they felt they did not possess enough pedagogical skills to handle problematic pupil behaviour.

Verbal and physical aggression are examples of student behavioural and emotional maladaptations that function as student-related teacher stressors. The teacher-pupil relationships in Dutch secondary school are marked by verbal aggression against teachers by students (22%), and by parents (11%), as found in a recent survey (DUO, 2015) on violence against teachers. Some examples of students' aggression mentioned in the report are: the use of foul/obscene language; verbal menace that teachers would have difficulties with the parents or might get fired; and the spread of rumours about particular teachers. Other abusive verbalisations that were mentioned are: screaming at the teacher; disturbance of the lesson; refusal to follow the teacher's instructions. In certain cases, the situation escalated to the point when pupils menaced the teacher with physical violence, and objects and furniture in the class were destroyed. Moreover, teachers also reported that they felt unprepared to deal with such forms of aggression, which supports the findings in the ETUCE EU report (2011) and other studies (Aloe et al. 2014; Borman & Dowling, 2008; Nickerson & Martens, 2008) that teachers are insufficiently prepared to tackle students' behavioural and emotional issues.

In 2017, DUO published another report on different aspects of the Dutch primary, secondary and tertiary education sectors. Physical aggression towards teachers was reported to occur less often (2%), and mostly consisted of throwing objects (pens, pencils, furniture) at the

teacher. More than half of the teachers who mentioned these abuses (57%), reported that those conflicts had no personal mental and/or practical consequences for them; more than a quarter of them (26%) declared they found their work less pleasant after the conflicts, and about 9% of them did not perform as well professionally following the incidents. Quite a large percentage (18%) of "other" consequences of the physical and verbal abuse mentioned were: "after the conflict I [the teacher] did not function properly for a short while", or "got a burn-out". In some cases, as a result of a teacher-student (and/or parent) conflict, teachers refused to teach that particular student again, or they resigned and found another job at another school.

To sum up, in Dutch secondary schools, student-related stress is ranked as the third main stressor, and it is clear that secondary school teachers are frequently exposed to undesired verbal and physical abuse by students and/or parents. This picture shows large similarities with the findings at European level, as presented in Section 2.3.1. Additionally, the difference in the reactions of individual teachers to student-related misbehaviour supports the assumption of the Transactional Model of Stress and Coping (See Section 2.2) that teachers' cognitive appraisal of student maladaptive behaviours plays an important role in how teachers deal with stress triggers.

Teachers' work-related stress is also studied in the higher vocational education sector (Universities of Applied Sciences; HBO in Dutch). In a recent study (Regioplan, 2014) that measured, among others, the level of stress and satisfaction of teachers in higher vocational education, the main reported sources of stress and dissatisfaction were: high workload and too many responsibilities (34%), governmental policies and regulations (30%), and insufficient financial possibilities (15%). Additionally, another frequently reported stressor was the pressure to finish a Master's programme. This is due to the policy for tertiary education teachers, according to which by 2020 all teachers should obtain a Master's degree (DUO, 2014; ISO,

2016). Despite these strains, about 70% of them reported that they were happy with their job, and between 17% and 31% thought that their teacher profession was appreciated by society. Student-related teacher stress was not an item on the stress scale, so it remained unclear whether they experienced student-related teacher stress as well.

Additionally, in the most recent extensive national measurement of teacher satisfaction in higher vocational institutions (Zestor, 2017), performed between 2014-2016, 16,653 respondents filled in a digital survey. Teacher stress was also measured, which appeared to be lower than in 2014. Similar to the previous national measurement (DUO, 2014), student-related stress triggers were not included in the survey, based on which we may presume that the general thought was that this type of trigger was not considered a relevant stressor. The stress factors measured were: available time to prepare, the emotional stress generated by the work performed, the mental capacity to perform the work, recharging during off-duty time, work-job balance, management's openness to discuss the experienced stress. It is important to mention that it does not necessarily mean that there are no student issues going on in higher vocational institutions that might affect the teachers in a negative way. There are, and some of these student issues belong to primary educational processes, which include: an overprotective culture in the course, too passive or too active students, delayed students, low class attendance, excessive e-mail correspondence with students, tardiness, little preparation for a session, taking too many exam opportunities with no preparation, free-riding in group projects, plagiarism, different student knowledge levels in a group (that is, students can enter higher vocational education via senior secondary vocational education (mbo), senior general secondary education (havo), or pre-university education (vwo) (Zestor, 2016). College students might display maladaptive behaviours and emotions, but the teachers do not label them as stressors. We can only speculate about the reasons for this, as

student-related teacher stress is not commonly studied in higher education. One reason might be that teachers in this sector might view student maladaptive behaviours and emotions as typical student behaviours, by which they are not overly bothered, because they only meet the students for short sessions during the week. Another reason could be that teachers consider that students are responsible for their own performance, and thus the teachers do not feel responsible for improving students' behavioural and emotional functioning.

2.4 Strategies for reducing student-related teacher stress

From the empirical studies and comprehensive reports reviewed in the previous section, it is clear to see that student maladaptive behaviours and emotions have remained important stress triggers for teachers over the last 30 years, at least in secondary education. At the same time, these stress triggers have intensified and multiplied. This section includes a short analysis of the literature about what should be done in order to reduce and prevent teacher stress in general, and student-related teacher stress in particular is presented.

There are two ways student-related teacher stress in secondary education may be tackled: directly via teacher focussed stress management interventions and programmes, and indirectly via programmes that target to improve student behavioural and emotional functioning, so that, eventually, teachers experience less student-related stress triggers. In line with Lazarus' Transactional Model of Stress and Coping (Lazarus, 1991; Lazarus & Folkman, 1984; Lazarus, DeLongis, Folkman, & Gruen, 1985), Ellis, Gordon, Neeman, & Palmer (2001), Bernard (1990; Ellis & Bernard, 2006) and Rogers (2004, 2012) state that stress regulation techniques can be learnt to help teachers defuse the appraisal phase so that the stress trigger does not turn into stress/distress. This is the direct way of reducing student-related teacher stress. The assumption is that managing stress is a personal responsibility, and acquiring coping skills will help the

teacher deal with irrationality and irrational beliefs, self-downing, demandingness and low frustration tolerance. Bernard (1990) and Rogers (2004, 2012) suggest several areas a teacher has to put effort into, in order to manage stress effectively. In the order of importance, they are the following: to learn to adopt more rational attitudes; to learn to relax by adopting a healthy lifestyle, with a proper diet, regular exercise, and recreational moments, with a clear work-free-time balance; and to learn to understand student (mis)behaviour and, more importantly, learn how to tackle it, how to approach discipline and how to prepare a discipline plan. Finally, they suggest that teachers, and especially younger teachers, should be offered support on how to deal with stress and student-related emotional and behavioural issues.

Regarding the indirect way of reducing teacher stress, it is suggested in the literature (Bernard, 1990; Rogers, 2012) that the focus should be on reducing student-related stress triggers by improving students' behavioural and emotional functioning. A way of doing this is implementing a prevention-intervention social-behavioural-emotional programme, because via such a programme, young people may learn how to improve their self-awareness, self-management, social awareness, relationship skills and responsible decision making skills (Akopoulos & Bernard, 2015; Bernard, 2004, 2005, 2006a, 2006b, 2008; Bernard & Walton, 2011; Ellis & Bernard, 2006; ETUCE, 2014, 2016; Knaus, 1974, 1983; Vernon & Bernard, 2006). In the course of the past three decades, psychologists and educators in the field of Rational Emotive Education (REE) or Rational Emotional Learning (REL) have developed prevention-intervention social emotional programmes that address (mal)adaptive student behaviour and emotional (mal)functioning. REE/REL emerged from diverse psychological and educational theories and approaches, primarily, the Rational Emotive Behavioural Therapy (REBT) and Cognitive Behavioural Therapy (CBT) (See Appendix 1 for a short history of

REE/REL) have devised programmes that assist pupils and students in becoming more cooperative, resilient, tolerant, organised and more confident in themselves, enhancing self-acceptance and self-determination, by acquiring critical thinking skills, developing coping and reasoning skills, learning to tolerate frustration, and keeping a realistic perspective in order to cope with school and life difficulties. This endeavour has also been noticed in the last fifteen years at European level, when, under the umbrella of ETUCE, the European countries have successfully been cooperating, and have started implementing social-emotional prevention and intervention programmes that help both teachers (legislatively, institutionally and personally) in reducing work stress, and students to become more adaptable and resilient (ETUCE, 2011, 2014, 2016).

Additionally, in the Netherlands, the Advisory Board for Education (Onderwijsraad, 2008) advised secondary schools to try to reduce teacher stress by implementing more consistent preventive programmes that help students adapt and function better. According to a recent report on education (Onderwijsraad, 2016), most of the Dutch primary and secondary schools and colleges have implemented such a programme. Despite the fact that prevention-intervention programmes are being implemented in most of the Dutch secondary schools, it is not documented whether these have been effective programmes, and whether they have been implemented correctly. At the same time, the latest DUO report (2017) has concluded that student-related teacher stress remains a problem. In line with the European policies and proposals (ETUCE, 2001, 2007, 2014, 2016), Bernard (1990, 2005), B. Rogers (2015) and W. Rogers (2004, 2012) promote the indirect approach, by implementing prevention-intervention socio-emotional programmes that teach students how to adjust their maladaptive behaviours and

emotions, in addition to more general, direct approaches such as teaching teachers how to process stress triggers so that they do not become stressors.

2.5 Conclusions

The aim of this literature overview was to find answers to the questions formulated in the introduction of the chapter, as these answers will lead to decisions regarding the measurement instruments adopted, selection of the sample and suitability of the programme implemented in this study. The answers to those questions will be presented below in the same order as they were introduced at the beginning of the chapter.

The literature review in Section 2.2 provided an answer to the following question: How does the literature define teacher stress, and what stress model represents teacher stress the best? Following the presented literature, Bernard's (1990) definition of teacher stress was adopted. Bernard's teacher stress definition is rooted in and explained by Lazarus' Transactional Model of Stress and Coping. This model explains that a person's response to stressors is determined by the personal interpretation and assessment of the external/internal stressor(s) which subsequently triggers positive and/or negative emotional responses. This means that the person, in our case teachers, are able to increase or decrease their stress level in the appraisal phase (initial exposure to and evaluation of stressors).

In Section 2.3, the literature review addressed the following questions: To what extent do teachers experience stress and how did it change over the time frame from 1990 up until now? What educational sector (primary, secondary, or tertiary) was identified as the most stressful for teachers? And to what extent do teachers in the Netherlands experience stress, in particular student-related teacher stress? Student-related teacher stress is that type of stress that is triggered by students' maladaptive behaviours and emotions. It was found that student-related teacher

stress shifted from being the number one stressor for teachers in the 90s, as ranked by Bernard, to the third ranked stressor nowadays. Additionally, multiple studies have identified secondary school teachers as being more exposed to student-related stress and prone to develop stress-related symptoms than other teachers. As for higher vocational education, the student-related issues are of a different nature, seemingly a less important stressor for teachers. Finally, in the Netherlands, the reported student-related teacher stress levels present similarities with the international literature, ranked as the third mentioned stressor by the teachers, with the secondary school sector acknowledged as more stressful than the primary and tertiary sectors.

Finally, the analysis in Section 2.4 provided an answer to the question: What are the strategies proposed in the literature that might help reduce student-related teacher stress? In the literature it is suggested that solving student-related stress issues implies helping teachers to learn to manage their own perceived stress (the direct approach), on the one hand, and, on the other hand, to reduce student-related stress triggers by helping students via socio-emotional programmes to display more acceptable behaviours and emotions (the indirect approach). The advantage of this indirect approach is that students' behavioural and emotional functioning may improve due to their exposure to such programmes (this will be further discussed in the next chapters).

Based on the findings from the literature review the following decisions were taken. Due to the fact that in the literature student-related teacher stress in higher vocational education institutions seems a less serious issue, student-related teacher stress was only included in the study in secondary education. Additionally, the student-related teacher stress survey was designed in accordance with the frequently mentioned student-related teacher stressors, as described in the literature, such as: disturbing the teaching-learning process, skipping or being

late to class, speaking out of turn, cursing, using abusive language towards the teacher or other pupils in the class, noncompliance, and lack of or underdeveloped cooperation, organisation, getting along, persistence and emotional resilience skills. Finally, as it will become clearer in the subsequent chapters, we decided to implement a social-emotional programme to help students display more acceptable behaviours and emotions as a way (the indirect way) to decrease the level of student-related teacher stress.

The aim of this chapter was to present, from a theoretical point of view, what student-related teacher stress is, how it manifests itself, the different aspects that trigger this type of stress and suggested strategies of reducing it. It is important to mention that one should be cautious when generalising the findings of these studies because of the limitations certain studies may present. For example, most of the studies made use of self-reported methods to gather data which may generate Type I errors (false positives, meaning a result which shows that a certain given condition exists when it actually does not exist. In other words, assessing something that is absent) and Type II errors (false negatives, meaning a result that a test result shows that a condition failed, while it was successful. In other words, when a true condition is not believed) (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). Further, making use of self-reported data may present other disadvantages. For example, fixed choice questions were often used, which forces people to choose either one of the prescribed answers, that may not have included their preferred response. Moreover, people may have given socially desirable answers, as the topic of teacher stress may be considered taboo. Lastly, although some sources that were discussed in this chapter seem outdated, these were the most elaborative and relevant publications on student-related teacher stress in the past decades. In recent years, the discussion

on teacher stress overly focuses on the need to increase teacher salaries and to lower overall workload, largely ignoring the fact that prior studies evidently show that maladaptive behaviours and emotions of students is one of the most important stressors for teachers.

Chapter 3 Student underachievement and maladaptive behaviours and emotions

3.1 Introduction

In the previous chapter, it was concluded that one of the main three teacher stress factors was the factor related to students' maladaptive behaviours and emotions. It was also suggested that one way to reduce this type of student-related teacher stress is by implementing social-emotional programmes that has proven to improve students' behavioural and emotional functioning (See Chapter 2, Section 2.4).

This chapter reviews the theoretical and empirical literature about students' (mal)adaptive emotions and behaviours that might lead to (under)achievement, (dis)engagement and/or (ill)well-being. For this literature review the similar SALSA (search, appraisal, synthesis, and analysis) approach (Booth et al. (2016) was applied as in Chapter 2. In the search stage, a systematic and comprehensive literature search was performed in electronic databases (EBSCO host, Google Scholar and useful and reliable websites as gateways to other sources) and academic libraries. Search terms were: underachievement/underachiever/school maladaptation/student behavioural and emotional malfunctioning/disengagement/emotional and behavioural (mal)functioning in students/external and internal factors that trigger student (mal)functioning. In the appraisal stage the same inclusion and exclusion criteria were used as described in Section 2.1. The information extracted from the selected studies was synthesised and categorized per school level (secondary/tertiary education), context (international/Dutch), and internal/external factors that influence/cause behavioural and emotional maladaptation in students. Finally, the synthesised information extracted from the selected sources was analysed to get answers to the research questions formulated below.

The following two questions will be addressed: firstly, what are the characteristics of underachieving and/or disengaged students, how is underachievement and disengagement related to behavioural and emotional functioning, and how could this relation be explained? (Section 3.2); and secondly, which external factors influence the development or maintenance of behavioural and emotional malfunctioning? (Sections 3.3 and 3.4). The answer to these questions will provide the background information to motivate the choice of the Mentoring Program implemented in the two intervention studies (Section 3.5). Due to the two target groups of these interventions, this background information will be limited to secondary school and college students.

3.2 Underachievement and disengagement and its relation with behavioural and emotional functioning

As mentioned in the previous chapter, students' behavioural and emotional maladaptations are not clearly defined in the literature. Researchers like Finn et al. (2008), Houghton, Wheldall, and Merrett (1988) and Thompson (2009) describe such maladaptations as being a combination of those behaviours that disturb the teaching-learning process, like skipping or being late to class, speaking out of turn, disrupting the lesson, cursing, and using verbal abuse towards the teacher or other pupils in the class. Other researchers additionally mention behaviours like noncompliance, bullying, gang and harassment activities (Fernet et al., 2012; Finn et al., 2008; Robers et al., 2013). As a result of being engaged in such activities and having these maladaptive behaviours and emotions, the student, eventually, shows disengagement, low performance and underachievement (Bernard, 1997; Brophy, 1996; Schaeffer & Millman, 1981).

Student underachievement has been extensively studied for a long time by educational psychologists. Different researchers have defined underachievement and the underachiever differently, focusing either on underachievement or disengagement, or on both. Bernard (1997), for example, defines an underachiever as a student who would be capable of performing academically better, but does not do so. Bandura (1986) defines an underachiever as a student who displays low self-efficacy that impedes him to work hard at a task when the task is difficult. Schaeffer and Millman (1981), focusing on disengagement, describe an underachiever as a student who sees little meaning in school, and who is not motivated to set goals and achieve academically. Brophy (1996), following the same direction as Schaefer, Watkins and Canives (2001), describes an underachiever as a student who only does the minimum to just pass, who is indifferent to what is going on at school, and who feels unchallenged and unmotivated.

Encompassing both perspectives, underachievement and disengagement, Bernard (1997) summarised the visible signs that may announce educational underachievement of a student. These signs could be that the student: "performs much better on a test of ability than in schoolwork; performs better at one time and poorly at another; performs well in some subjects and poorly in others; occasionally performs well; and might show one or more of the following traits: low self-esteem, fear of failure, discouragement, lack of confidence, lack of motivation and effort, cannot set realistic and achievable goals, lack of time management, cannot follow rules and rebels and has poor study skills" (p. 7).

About a decade later, Bernard (in Ellis & Bernard, 2006, pp. 312-314) extended his work on this topic and synthesized the studies about underachievement and underachievers. He found the following seven types of underachievers:

1. The rebellious/aggressive type, described by Whitmore (1980), as the "You can't make me do this" type. The psychology of this type of students is that they believe they should be allowed to do whatever they want, and whenever they want. They regard their behaviour as a pay-back to their parents or teachers.
2. The immature/dependent/anxious type, studied among others by Bruns (1992). This type is described as students who are emotionally immature, who do not dare to do things by themselves and look for constant support with a high need of approval and a fear of trying new things.
3. The helpless-discouraged-depressed type, described by Seligman (1975). This type of students has limited academic aptitudes and learning abilities, due to which they cannot keep the pace with the rest of the students. As a result, they feel depressed and discouraged, cherishing negative thoughts and feelings about themselves and about learning.
4. The perfectionistic type, described by Pacht (1984) as those students who set unrealistic standards for themselves and expect themselves to do things perfectly. Such a type prefers not to perform at all, or underperform in the fields where they think they might do poorer than expected. Such students tend to procrastinate because of fear of failure, and they also tend to achieve in the fields they are good at.
5. The peer conforming type, represented by those students who believe that school achievement is no longer needed, and that they do not have to put effort in schoolwork because they can see a lot of people on TV and media who have become successful, without having performed well in school (Bernard, 1997).
6. The low frustration tolerance type, described by Knaus (1983) as those students who seem unable to stand boring or hard schoolwork, but are successful in other areas they are active

in. They are often labelled as “lazy”, and sometimes they have a low level of tolerance for frustration.

7. The non-achievement/Peter Pan Syndrome type, which was studied by Mandel and Marcus (1988). They observed that this type of underachievement generally appears among well-educated students who would do anything just to avoid schoolwork and success. This attitude is a strategy to avoid the responsibility that is expected of them, and that is the last thing they want to do.

As some students become underachievers and others do not, it is important to realise that the cognitive development of children may differ substantially following the different experiences the child has. The theoretical assumptions underlying REBT (Rational Emotive Behaviour Therapy) are rather similar to Piaget’s theory of stages of cognitive development (sensorimotor, preoperational, preconcrete, concrete operational, and formal operational). Both theories agree on the assumption of constructivism, on the method of investigation, on the power of formal logical reasoning, on the importance of cognition in the experience and on the expression of emotions. Factors that may become problematic in some adolescents are “egocentrism” and “naive idealism” in the formal operational thought period, that generates emotional and behavioural problems. It is in this period that adolescents are searching to discover their own identity and they formulate their own set of values and norms, as they try to define social relations in relation with themselves and others (Ellis & Bernard, 2006).

Ellis and Bernard (2006) assume that problems arise when some children do not learn to upgrade from the preconcrete operational thought pattern (also called self-talk or habit of the mind) to the concrete operational pattern and to the formal operational thought pattern. The distorted thought pattern that persists from the preconcrete operational period can present some

irrational features. Drawing arbitrary inferences is one of them, and it is displayed when a child draws conclusions without considering the evidence, or contrary to the evidence (e.g. “I do not like you because you do not play with me”; “I do not like Maths because I do not know how to solve this exercise/I do not understand this.”). Another distorted thought pattern is selective abstraction, which means that the child focuses on one detail taken from the context, and draws a conclusion based on only that detail (e.g. “I have failed the Maths test. I am stupid and I will never be able to do well in school.”). Magnification and/or minimisation are also errors in the thought patterns, when the child minimizes or magnifies the importance of an event (e.g. The student was shown that he made an arithmetic mistake and he concludes that he will never be able to learn it; or, the student used offensive words towards other students, but he says he is just joking.). Another flawed thought pattern is personalisation, when the child relates itself to an event when in reality there is no ground for doing that (e.g. I was late in class, that is why my group lost the competition/that is why we got a test.). Other flawed thought patterns that might be displayed could be overgeneralisations, when a conclusion is drawn based on only one piece of evidence, or an isolated event. Another aspect is the dichotomous way of thinking, when the child sees only the extremes of a situation, also called the “black or white” way of thinking. Subsequently, if these patterns of thinking are not cognitively restructured and brought to a rational level in childhood, they tend to remain in a person’s system of thinking in adulthood (Ellis & Bernard, 2006; Paul & Elder, 2014).

In the REBT approach it is assumed that (ir)rational and/or false/true beliefs (self-talk, thought pattern or habit of the mind) that children cherish may play an important role in developing (mal)adapted behaviours and emotions. They also claim that children ultimately act

based on these (ir)rational beliefs. In line with these distorted thought patterns, Bard and Fisher (1983) claim that underachievers may hold a specific set of five irrational beliefs:

1. "Everything will turn out OK whether I work or not". This belief can be observed in those students who tend to procrastinate and avoid doing their tasks until it is too late, and they have to renegotiate another deadline.
2. "Everything should be entertaining and/or enjoyable and there should be no unpleasantness whatsoever'', also defined as Low Frustration Tolerance by Albert Ellis. This is the most difficult attitude/belief to change. Bard and Fisher (1983) observed that this belief may appear in combination with the first one: "everything will turn out OK whether I work or not", but it can be manifested alone, too. This belief is observed to be cherished by those students who tend to achieve well and very well in those subjects they are interested in, and they underachieve in those subjects they are not interested in.
3. "To do well in school would betray relationships I have with my friends". This is the belief described by Bard and Fisher as the one that appears in the system of thinking of those students who make a conscious decision not to succeed academically in order to get the approval and acceptance of a group that has underachievement as a standard.
4. "It is demeaning, dishonourable, and destructive of my personal integrity to cooperate with authority in any way". This is a philosophy adopted by self-centred students that tend to reject any form of rules in society and in school. They manifest a range of destructive and non-conforming behaviours.
5. "Nothing I do at school will ever benefit me", is the fifth irrational belief identified by Bard and Fisher (1983). This way of thinking is evident in those students who enter

school with low expectations and do not realise that they are expected to put effort into school work.

Making use of the abovementioned classification of irrational/false beliefs/self-talk/habits of the mind of adolescents (Bard & Fisher, 1983), and using the principles of REBT, Bernard (in Ellis & Bernard, 2006) extensively studied the most common social-emotional and behavioural disabilities in children. In his REBT therapist's pocket companion for working with children and adolescents, Bernard (2004) identified the main maladaptive childhood behaviours and emotions associated with underachievement, such as: anger, bullying, cheating, feeling down, procrastination, perfectionism due to compulsive effort and due to lack of effort, social anxiety, performance anxiety, school phobia and secondary emotional distress (emotional reactions to other emotions). The self-talk (negative/positive) is important because it is determinant in stimulating a person's intrinsic value and motivation (self-efficacy), in our case by practising the 12 positive habits of the mind to master the 5Keys.

After having identified the main maladaptive behaviours and emotions associated with underachievement and ill-being, Bernard (2006) developed the YCDI! Education approach making use of different psychological and educational approaches and theories. It is a school-home collaborative approach that aims to teach children five positive social-emotional skills (also called the 5Keys for success and well-being, namely: confidence, persistence, organisation, getting along and emotional resilience) by practising 12 positive attitudes/habits of the mind/ways of thinking/self-talk (following rules; thinking first; accepting everyone; time management; setting goals; giving effort; working tough; growth mindset; I can do it; being independent; taking risks; accepting myself; which are associated with positive social and emotional capabilities) (Ellis & Bernard, 2006, pp. 324-326; Bernard, 2008). Bernard (2006)

argues that maladapted behaviours and emotions displayed by some students are actually the underdeveloped 5Keys that eventually lead to disengagement and underachievement. Section 3.5 presents the importance of the 5Keys and the role of self-talk/habits of the mind in mastering them. In Chapter 4, a detailed description of the YCDI! Education approach and the YCDI! Mentoring Program used for this research study can be found.

3.3 External influences on (the development of) behavioural and emotional functioning

Although the interventions in this study took place in school settings, the influence of parents/caretakers is to be taken into consideration when explaining the development of student underachievement and maladaptation, because parents, both mothers and fathers or caregivers, are the first teachers in a child's life. They have unique influences on their children and maternal and paternal figures are essential in a child's healthy development and building a child's character (Belsky, 1984; Bornstein & Bradley, 2014). REBT theorists deem parental factors to be of major importance in preventing, minimising or exacerbating emotional and behavioural problems in children.

Parents are of the utmost importance, for they may have positive/negative effects on their children's emotional and behavioural development. Hauck (1967, 1977), who, for over thirty years, worked with parents and children applying rational-emotive methods of solving child disorders and parenting dilemmas, has identified four types of parental styles that may have different effects on a child's development. Hauck not only classified parenting styles, but also showed the consequences they might have for the child. Later, his classification was adopted by other educationalists and parenting psychologists with a positive socio-emotional approach (such as Bernard, Ellis & Terjesen, 2006; Kohn, 2006).

The first type of parenting is the unkind and firm pattern that has rigid rules. It is very strict and focuses on the negative things the child does. These children might end up underestimating themselves and being shy, and sometimes blame themselves for things they have not done.

The second type is the kind and not firm pattern. It is represented by the parent who does not have a lot of expectations from his/her children, and who does not set so many rules for them. These children might become egocentric, weak and dependent, with a low frustration tolerance.

The third type is the unkind and not firm pattern. It is characterised by the type of parent who almost never criticises or praises the child for anything it does. These children might grow up and become rebellious, angry and frustrated, and tend to test the borders.

The fourth type is the kind and firm pattern, which is also the recommended parenting style. It is considered a balanced parenting style, in which clear rules with clear consequences are set, criticism is focused on the behaviour not on the person, in which punishment is never given out of anger, and in which there are frequent manifestations of love and praise. Children who benefit from this type of parenting experience and develop positive social-emotional well-being, and are likely to adapt better to stressful situations and achieve their goals. This parenting style is expected to influence the child's development in the most positive way, ultimately resulting in positive habits of the mind/self-talk.

The impact and importance of positive socio-emotional education and positive interaction between parents and their children was revalidated in a more recent longitudinal research study about the link between parenting style and mother-child interaction with the child's later school achievement and social and emotional balance (Matthews, Marulis, & Williford, 2014). The

study began in 1991 on 1,364 families randomly selected, and the outcomes of the study showed that the positive early mother-child interaction like maternal sensitivity (supportive presence, respect for autonomy, low hostility), maternal stimulation (cognitive stimulation of the child, qualitative mother assistance) and child positive engagement with mother (positive experience with mother, low negativity towards mother and safety feeling with mother in the first 54 months of life) is linked to the child's work persistence, cognitive self-regulation and socio-emotional development in later school years. Time and again, psychologists reemphasize the crucial role parenting style and modelling have on the future development and achievement of children.

Besides parental influences that shape and maintain a child's future tendencies, behaviours, emotions and thinking patterns, there are also the environmental/external factors that may trigger maladaptive behaviours and emotions in some students. In some students, because it is important to remember that the decisive factor in the risk that students will eventually display adaptive or maladaptive behaviours and emotions is the conscious/unconscious self-talk/habits of the mind/appraisal of the situation/trigger. The most important of these external factors are discussed in the next section.

3.4 The broader social context

The type of (positive/negative) self-talk/habit of the mind young people use when dealing with the broad social context they live in has a direct influence on their behaviours and emotions as explained by Ellis and Bernard (2006). They argue that when young people are taught to practise the 12 habits of the mind in order to master the 5Keys, they learn to cope with challenging social situations and display adjusted behaviours and emotions. Therefore, in this section, the environmental/external factors secondary school students and college students may

experience and the reactions to these factors they may display are described. First, some relevant characteristics of the broad social context for secondary school students will be presented, followed by some relevant characteristics of the social context for college students.

Some researchers have tried to analyse the external triggers young students experience. They have found a correlation between major life events in the life of young students and their adjustment (Dubow & Tisak, 1989; Ellis & Bernard, 2006; Greene, Abidin, & Kmetz, 1997; Pryor-Brown & Cowen, 1989; Sandler, 1980; Sterling, Cowen, Weissberg, Lotyczewski, & Boike, 1985; Work, Parker, & Cowen, 1990; WHO, 2016). More concretely, it was observed that secondary school students find school life itself the most stressful domain, due to the loss they experience at a personal level, and the changes in the peer and family domains. The common hassles a secondary school student might encounter are: being away from home, starting a new school or moving to a new location, being separated from parents, getting along with others, bodily changes, the future, homework, tests, facing the challenge of a new environment and making new friends.

In the Netherlands, the reported behavioural and emotional reactions of secondary school students to the school environment are consistent with the findings in most European countries (DUO, 2017; Ellis & Bernard, 2006; ETUCE, 2014, 2015, 2016; WHO, 2016). Still there are some particular elements which have been reported as being the cause or the consequence of problematic behaviour in the Netherlands such as: bullying (via social media also called cyberbullying), which was reported to happen to 8% of the students; menacing behaviours like physical aggression, sexual harassment and intimidation (unwanted touch) and rape; and use of drugs and alcohol (DUO, 2010, 2015, 2017; Scholte et al., 2016; Tempelaar et al., 2017).

According to the DUO (2017) report, 20% of Dutch pupils in their first year of their secondary education need extra support for dealing with their problematic behaviour.

A consequence of the prolonged exposure of secondary school students to daily school hassles might generate negative psychological, physiological and attitudinal/behavioural reactions. The psychological reactions could be manifested in feelings of inferiority, anxiety, anger or blame, and some students tend to develop perfectionistic behaviours and thoughts. They become afraid of making mistakes, and in some cases they are afraid of being bullied, called names or having to answer a question in front of the class for fear of being called stupid (Bernard in Ellis & Bernard, 2006; Knaus, 1974; Tempelaar et al., 2017). Disengagement and underachievement are the most prominent reactions as explained in Section 3.2.

In the case of college students, the broad social context is different to that of secondary school students. Due to the challenging and transitional nature of college life, college students worldwide, especially freshmen, are prone to a lot of pressure (D'Zurilla & Sheedy, 1991; Towbes & Cohen, 1996). The main trigger that provokes emotional discomfort for college students is the so-called academic stress (e.g. the continuous evaluation; the pressure to earn good grades and a degree; excessive homework, unclear assignments, etc.) (Misra, McKean, & Russo, 2000). This is due to the academic demands and workload that are much greater than the student is used to at high school, and it is felt more intensely by freshmen (Kausar, 2010).

Other factors that trigger stress in college students are: being on one's own in a new environment, with new responsibilities and away from parental attachment, and away from home, often for the first time, exposed to new people, ideas and temptations (Rabbani, Kasmaienezhadfard, & Pourrajab, 2014); the lack of family life that can be perceived as being more stressful for Asian students than European students (Castillo, Zahn, & Cano, 2012);

acculturation, and the language barrier especially for international students (Yakunina, Weigold, Hercegovac, & Elsayed, 2013); students' financial responsibilities and financial management skills, coupled with the current economic downturn were also found as stress factors for students (Guo, Wang, Johnson, & Diaz, 2011). Other external stress factors mentioned in the literature are: lack of university services (Oswalt & Riddock, 2007); exposure to traumatic events, and substance abuse (McGowan & Kagee, 2013); time management and decision making skills (Misra et al., 2000); doubts about their study choice, the choice of vocation and preparing for life after graduation, no belief in the chances school offers, and not believing that once graduated they will get a job (Robinson, 2010); roommate issues, and familial pressure (Aselton, 2012). The above mentioned triggers were restudied and reconfirmed more recently in a quantitative cross-sectional research study (Lee & Jang, 2015). The conclusion of the study was that one of most prominent factors college students found difficult to handle and affected their level of satisfaction was the stress due to the complex changes in their private and student lives.

Comparatively, in the Netherlands, research has recently been conducted in order to explore the pressure experienced by college students and their reactions to it. In an investigative research study where mixed research methods were used (ISO, 2016), Dutch college students' need for help and support was investigated. The Dutch Institute of Psychologists admits that there is an increase in the demand for help on the part of college students in terms of their academic and personal issues, which have become more complex (study issues combined with personal issues). This confirms the finding at international level (Lee & Jang, 2015). This increase in demand can be explained in students' tendency to seek help more readily compared to in the past as mental health issues become less of a taboo, or in the complexity of the situations experienced by the students. Another reason is because student counsellors and

psychologists are more visible on organisation sites and more active in informing students about their services.

Faced with all these major changes and challenges in their lives, some students may develop a trauma in their college years leading to mental illness in their later adult life. As explained in section 3.3, those students who have low self-esteem, are pessimistic, and those who are quickly overwhelmed by stress, are most at risk of developing such mental illness and depression due to college trauma (Beiter et al, 2015; Dexter, Huff, Rudecki, & Abraham, 2018; Ellis & Bernard, 2006). Physiological, attitudinal and behavioural consequences of prolonged exposure to school-related stress may include low academic performance, sickness, procrastination and cheating (Saklofske et al., 2012), substance abuse and behavioural addictions (Tavolacci et al., 2013), stress-induced musculoskeletal disorders (MSDs), loneliness, anxiety, depression and disorientation (Ekpenyong, Daniel, & Aribo, 2013).

3.5 The importance of the 5Keys and the role of self-talk/habits of the mind

Assessing all the information presented in the previous paragraphs, it can be concluded that individual factors, but also parental factors and the broader social context may be sources of students' maladaptive behaviours and emotions. We also saw that the internal dialogue/appraisal/self-talk/habits of the mind young adults indulge in whenever something unpleasant or pleasant is happening, determines how rationally or irrationally they think and behave. It is the very same principle as in the Transactional Model of Stress and Coping presented in Chapter 2 on teacher stress.

To help those children and young people who are achieving less than their potential, more exactly underachievers, Bernard (2005) developed the rational-social-emotional-cognitive-behavioural YCDI! Education framework and YCDI! Mentoring Program. He suggests that

underachievers, who are taught to become more confident, persistent, organised, cooperative and emotionally resilient (5Keys), will present fewer maladaptive behaviours and emotions than those who are not taught the 5Keys. The programme teaches students, especially underachievers, how to learn to master the self-talk and cope with the typical student-related school and life problems. A detailed description of the YCDI! Mentoring Program can be found in Chapter 4.

The importance and impact of the self-talk/habits of the mind as displayed by achievers and underachievers have been extensively studied. Below, five comparative (non-experimental) studies will be discussed. An overall conclusion of these studies (Bernard, 1995, 2004c; Brooks, 1999; Buddecke, 2002; Eddy, 2000) is that achievers present more positive self-talk (Habits of the Mind), compared to underachievers, who tend to have more negative self-talk (Habits of the Mind). Another observation was that achievers were found to be more confident, persistent, organised, cooperative, and emotionally resilient (the 5Keys), compared to underachievers, who were found to be less confident, persistent, organised, cooperative, and emotionally resilient. Thus, the results of the studies show positive outcomes at the student behavioural and attitudinal level and also improved academic achievement attributed to the implementation of the 5Keys. It is important to note that these studies could not be found as primary sources, but only as reviewed studies in articles and cited as unpublished manuscripts, Master theses or conference papers. Therefore, only partial statistical data could be retrieved from these studies. The five studies are presented in more detail below.

Bernard (1995) performed a comparative study on *achievers* and *underachievers*, focussing on the difference of the use of the Habits of the Mind/self-talk of achievers compared to underachievers. The study was performed in one elementary school, one middle school and one high school, on 187 achievers and underachievers, selected by three teachers for each grade

level. The ethnic composition of the students was 1/3 African American, 1/3 Hispanic and 1/3 Anglo-American. Attitudes were rated by asking the teachers to fill in a questionnaire that tested 11 of these attitudes (all except the Social Responsibility attitude). The results showed that underachievers were rated lower on these than the achievers. The added value of this comparative study is the identification of a *universal positive mind-set (habits of the mind and implicitly mastery of the 5Keys)* that appeared in all achievers, irrespective of their race, cultural background, gender and abilities.

Following this, Brooks (1999) carried out a follow-up study on Bernard's experiment (1995) on achievers and underachievers using the same Habits of the Mind questionnaire as measurement instrument of the 5Keys. The samples used were a group of 151 regular, and 36 special education students. The purpose of the study was to see, again, the necessary ingredients for school success. Two teachers specialised in special education, and four teachers from regular education filled in the Attitudes Questionnaire (Bernard, 1995). The study showed that the special education students were rated lower on confidence, compared to the students in regular education. Moreover, the achievers were rated higher in confidence, persistence, organisation and getting along skills than the underachievers. The value of Brook's study is that it shows that students in special education were assessed as displaying lack of academic confidence, and the underachievers were rated low for nine of the eleven Attitudes, and four of the five 5Keys.

Replicating Bernard's (1995) study, Eddy (2000) investigated the ingredients that differentiate achievers from underachievers. She focused on high school students in grade 10, studying a group consisting of 80 students, 24 females and 56 males in Melbourne, Australia. As rating instrument, she used the Habits of the Mind questionnaire for the measurement of the 5Keys, filled in by the students' teachers. Furthermore, based on the teachers' ratings of the

students, she divided the students into underachievers, achievers and overachievers. It was observed that the Habits of the Mind that characterised achievers were: working tough (high frustration tolerance), giving effort (internal locus of control for learning), setting goals, planning my time, thinking first, and playing by the rules. What made the difference between achievers and underachievers was that achievers received higher ratings for persistence, organisation and getting along skills, while these skills were rated lower in underachievers.

Buddecke (2002), conducted a study in California, in which he studied the psychological differences in students who were taught four of the 5Keys (confidence, persistence, organisation and getting along), and their peers who were not. The target group consisted of 50 students, 33 males and 17 females, from different cultural backgrounds, Hispanics and Anglo-Americans. Half of them were identified as having academic and behavioural problems, while the other half were not. They were individually matched as comparative group, based on grade, gender and cultural background. All students were rated according to Bernard's (1995) Habits of the Mind questionnaire. Again, it was noticed that the students with academic and behavioural problems were rated significantly lower for four out of the 5Keys, confidence, persistence, organisation, and cooperation, compared to those who did not present such problems.

The fifth study by Bernard (2004c) studied the association between the 5Keys and reading skills development among 158 kindergarten children (80 boys and 78 girls of Hispanic, Anglo-American and other nationalities) in half and full-day kindergarten. Children's academic confidence and the 5Keys, as rated by their teachers, were correlated with their levels of reading skills development (running record) assessed in February and June of their kindergarten year. The children's 5Keys were assessed by their teachers using the Social-Emotional Well-Being Survey designed and validated by Bernard (2003b). Bernard explains that the lower a child's

display of the 5Keys, the more "at risk" he is to underperform and to show social and emotional malfunctioning. A statistical significant and positive correlation between each Key and the level of reading skills development at the end of kindergarten was found (ranging from .28 to .52 for the 5Keys). An important finding of this study was that the kindergarten children who were found to be "at risk" for developing reading difficulties showed also delays in social-motivational competencies (the 5Keys).

To conclude the discussion in this chapter, Table 3.1 presents a summary of the functional and dysfunctional attitudes, behaviours and emotions displayed by achievers and underachievers as reported in the literature.

Table 3. 1. Functional and dysfunctional attitudes and behaviours displayed by achievers and underachievers.

Author(s)	Underachievers	Achievers
Finn et al. (2008), Houghton et al. (1988), Thompson (2009)	Disturbs the teaching-learning process, likes skipping or being late to class, speaks out of turn, curses, and uses verbal abuse.	Does not disturb the teaching-learning process, does not skip classes, is not late to class, does not speak out of turn, does not curse, and does not use verbal abuse.
Fernet et al. (2012), Finn et al. (2008), Robers et al. (2013)	Displays: noncompliance, bullying, gang and harassment activities.	Is compliant, does not engage in bullying and/or gang and harassment activities.
Bernard (1997), Brophy (1996), Schaeffer and Millman (1981)	Displays: disengagement, low performance and underachievement. Sees little meaning in school and does only the minimum to pass.	Displays: engagement, performance and achievement. Sees meaning in school and puts effort to pass.
Bernard (1997)	Displays: low self-esteem, fear of failure, discouragement, lack of confidence, lack of motivation and effort, cannot set realistic and achievable goals, lacks time management skills, cannot follow rules and rebels and has poor study skills.	Displays: high self-esteem, is not afraid to make mistakes or fail, is optimistic, confident, motivated, puts effort, sets realistic and achievable goals, has good time management skills, can follow rules, does not rebel and has good study skills.
Whitmore (1980)	Displays aggression and rebelliousness.	Displays humility and compliance.
Bruns (1992)	Is immature/ dependent/anxious.	Is mature/ independent/calm.
Seligman (1975)	Feels helpless-discouraged-depressed.	Feels capable-hopeful-happy.
Pacht (1984)	Is perfectionistic.	Is pragmatic and realistic.

Bernard (1997)	Is peer conforming.	Is not afraid of making his own choices. Is independent.
Knaus (1983)	Displays low frustration tolerance.	Displays high frustration tolerance.
Marcus (1988)	Shows task avoidance/non-achievement/Peter Pan Syndrome.	Shows involvement/achievement and takes responsibility.
Bernard (1995, 2004c), Brooks (1999), Buddecke (2002), Eddy (2000)	Displays underdeveloped 5Keys (confidence, persistence, organization, getting along and emotional resilience) and has a negative mindset.	Displays developed 5Keys (confidence, persistence, organization, getting along and emotional resilience) and has a positive mindset.
Bandura (1986)	Low display of self-efficacy.	High display of self-efficacy.

3.6 Conclusions

The aim of the literature review in this chapter was to describe and explain the manifestations and causes of student underachievement and maladaptive behaviours and emotions that are related to underachievement.

The first question was: what are the characteristics of underachieving and/or disengaged students, and how is underachievement and disengagement related to behavioural and emotional functioning, and how could this relation be explained? As explained in Section 3.2, underachievers are those students/pupils who would be capable of performing better academically, but do not do so due to various issues they are dealing with. Some characteristic behaviours and emotions displayed by underachievers are: disturbance of the teaching-learning process, such as: skipping or being late to class, speaking out of turn, disrupting the lesson, cursing, and using verbal abuse towards the teacher or other pupils in the class, noncompliance, bullying, gang and harassment activities. Additionally, underachievers also show maladaptive emotions like anxiety, fears, rage, depression and poor emotional resilience skills. As a result of being engaged in such activities and having these maladaptive behaviours and emotions, the student, eventually, shows disengagement, low performance and underachievement.

The second question was: which external factors influence the development or maintenance of behavioural and emotional malfunctioning? The literature presented in Sections 3.3 and 3.4 showed that the main sources of student malfunctioning and underachievement are related to child factors, parental influence on the development of their children, and the more external/environmental factors such as school demands and (negative) influences from the broader social environment.

Reflecting upon these sources of underachievement for both secondary school and college students, these sources have been extensively studied by REE theorists, using a rational-social-emotional-cognitive-behavioural approach to alter students' maladaptive behaviours and emotions (among others, Bard & Fisher, 1983; Bernard & Joyce, 1984; Ellis & Bernard, 2006; Knaus, 1974; Vernon, 2002; Chapter 4 presents more REE studies). A wide range of student maladaptive behaviours and emotions has been mentioned in the literature, which stresses the importance of a broadly-focused approach to prevent and reduce maladaptive emotions and behaviours. In order to help young children adapt to the school environment, multiple studies suggest the implementation of prevention-intervention socio-emotional programmes, which may help young students develop positive behaviours and emotions towards themselves, school and society. Implementing such socio-emotional-behavioural programmes in curricula and testing their effectiveness would be the logical thing to do, since from an early age children spend a lot of their time at school and these skills can be learnt at school in case they are not taught in the home environment. Additionally, as suggested before, such programmes may help students to cope with the broader social context, more specifically to help them become more resilient and improve behaviourally and emotionally so that they can surpass their underachievement stage. Such a prevention-intervention programme is the YCDI! Mentoring Program (Bernard, 2005)

that was chosen to be implemented in the experimental groups for this Ph.D. project. By working on the 5Keys (confidence, persistence, organisation, getting along, and emotional resilience; see Section 3.5), students learn to display fewer maladaptive functioning behaviours and emotions. A detailed description of the programme is presented in the next chapter.

The answers to the leading questions formulated in the introduction of this chapter rely heavily on the information retrieved and synthesised from primary and secondary sources. Although comprehensive and thorough answers were found about the main causes and solutions to student underachievement and maladaptive emotions and behaviours, one should not forget that the sources that were used might have some limitations in terms of design, availability and generalizability of outcomes, or use of self-reported methods, which may generate Type 1 and Type II errors. Also, the year of publication for some of the studies was long ago, and, therefore, they should be considered as valid and relevant for that particular time frame only.

Chapter 4 YCDI! Education and YCDI! Mentoring Program

4.1 Introduction

In the review of the literature in Chapter 2, it was argued that student-related teacher stress is mainly triggered by students' behavioural and emotional maladaptations. Bernard (2006) argues that these behavioural and emotional maladaptations displayed by some students are actually the underdeveloped 5Keys (confidence, persistence, organisation getting along and emotional resilience) that eventually lead to underachievement (Chapter 3, Sections 3.2, 3.3, 3.4 and 3.5). Based on the literature that was reviewed in Chapter 3, it was suggested that You Can Do It! (YCDI) Education socio-emotional programmes might help students to improve the 5Keys. Moreover, it was argued that such programmes, as a consequence of the improvement of students' behaviours and emotions, might also reduce student-related teacher stress. The goal of this study was to test both assumptions by implementing and studying the effects of the rational-social-emotional-cognitive-behavioural YCDI Mentoring Program of Bernard (2005). Hence, in this chapter, the knowledge and insights of the YCDI Education framework in general, and its derivative the YCDI! Mentoring Program, are described.

Structurally, this chapter starts with the description of the goals and content of the YCDI! Mentoring Program (Section 4.2), followed by the theoretical background of the YCDI! Education framework (Section 4.3). Next, Section 4.4 describes results of a selection of previous evaluation studies of YCDI! programmes. The chapter closes with the conclusions in Section 4.5.

4.2 Description of YCDI! Mentoring Program

The YCDI! Mentoring Program (Bernard, 2005) is a YCDI! Education programme. It was designed as an attempt to help children and young people aged 12 to 18+ who are achieving less than their potential. It was written as an instrument for teachers, coaches and parents who want to guide adolescents to become happier and perform better at school and in life.

The coach/teacher/parent (from now on referred to as coach) is the person who works closely together with students, making use of the activities and assignments in the programme, in order to help them to overcome their underachieving condition. The coach plays an important role in this process, and a special relationship based on trust, confidentiality and mutual acceptance and respect needs to be established so that the students feel accepted and are willing to cooperate.

The working method is established according to the needs of the student, and it is advised to coach in small groups, and in certain cases individually. The working method includes the following activities: the coach discusses the topics of the programme with the student(s), they identify the needs together, and they set the goals for the weekly practice together. The next time they meet, the coach checks whether students were successful in practicing the habit/behaviour they have set as a goal. If yes, then they discuss how it went, whether the students encountered challenges and what kind of challenges. If the students could not accomplish their goal, then they discuss what prevented them from doing so, and set the goal again. This is a crucial role for the coach, because it is essential to encourage and motivate students to keep trying. The Mentoring Program contains a special section about student-coach

rapport, together with a variety of pieces of advice and shared best practices on how to coach young persons.

The mentoring activities/topics of the YCDI! Mentoring Program are structured in five broad topics/chapters based on the five required social-emotional skills, as described by Bernard (2008): confidence, persistence, organisation, getting along and emotional resilience (the 5Keys). In turn, these five broad topics contain smaller sub-topics/lessons, that can be tackled during the mentoring/coaching sessions. Each topic/lesson contains three different parts in the manual. The first part is the Rational Emotive Education background for the coach, with the basic classroom resources, which are useful for the coach when preparing a session. The second part outlines the actual lessons/activities, which deal with the (mal)adaptive behaviours, attitudes and emotions meant to be taught and discussed with the young person(s) using REE/REL strategies during the mentoring session. In these sessions, students practice self-talk and positive habits of the mind, in order to master the 5Keys. The third part contains special activities, in the form of weekly goal assignments, meant to make students practise those techniques in their own life beyond the school environment. One week later, students report on that particular weekly assignment, and they receive feedback from the coach. The feedback is very important, and it is advisable to give this promptly and personally, as it is considered an important dimension in the growth process. When implemented in schools, the method train-the-trainer is used, which means that a qualified trainer in REBT or YCDI! Education trains the coach(es) who in turn train(s) the pupils in weekly sessions for a period of 8-12 weeks, or longer, depending on the time available and the research design.

The main focus of the programme is to teach young people the way to achievement, well-being and harmonious relationships, by helping them develop their character with strong values

like: honesty, responsibility, care for self and others, doing the right thing, freedom, and strengths like: teamwork, fairness, self-regulation, gratitude, leadership, intelligence, humility, etc. (See Figure 4.1). In order to achieve this, there are some factors that may support the young person's harmonious development like: a positive parenting style, an effective teaching style and community support (See Appendix 2 and 3 for the Goals of the YCDI! Education).

Another important focus of the programme is to teach students about the power of self-talk and how the way they think influences their feelings and behaviour (Happening → Thinking → Feeling → Behaviour). For example, a student may think he is not good at meeting new people, which makes him feel sad and angry, and, therefore, may lead him not to talk to new people and avoid meeting them.

The programme emphasizes to students the importance of the *"hard yakka"*, which is an Australian Aboriginal expression that means "hard work". This is to inculcate the principle that in order to become successful, one must work hard. It also means that the student sometimes has to do unpleasant things now, so that he can become successful later. This is an important part of the programme, because lack of persistence is usually associated with negative attitudes in underperforming students. Such students need to be helped to understand the importance of putting a lot of effort into what they are doing, to identify the area they need to persist in , and also to help them agree to want to become more persistent. The coach needs the student's cooperation, because no change in his or her emotional or behavioural status can be made without the student's cooperation.

All in all, the ultimate goals of the programme for all students, as formulated by Bernard (2005), are: to be able to talk or write about the importance of the 5Keys for achievement and social-emotional well-being, and to explain their meaning; to be able to make an honest

evaluation of their position on the 5Keys in their school and extra-curricular activities; and to observe an increase in the use of the Keys during and after their school lives. After working with the Program, students should be able to say what it means to be: confident, persistent, organised, emotional resilient and get along, so that they can relate these behaviours and attitudes to their own functioning

Bernard (2005) argues that the implementation of the programme may be considered successful, if students have indeed made substantial progress on the 5Keys. He also warns that behavioural and emotional changes take time to occur and they are not always directly visible. Therefore, patience and lots of supportive reinforcements are needed before results are to be expected. In order for students to achieve these goals, Bernard studied and designed a mentoring approach, the YCDI! Education approach, which makes use of different psychological and educational theories and concepts. These theories and concepts are briefly presented in the next section.

4.3 You Can Do It! Education theoretical framework

YCDI! Education is a Rational Emotive Education (REE) programme. REE, or rational-emotional learning (REL), emerged from diverse psychological and educational theories, primarily, the Rational Emotive Behavioural Therapy (REBT) and Cognitive Behavioural Therapy (CBT) approaches. Both YCDI! Education and REE use the same educational and psychological theories, constructs, principles and best practices. These theories identify some concrete social-emotional capabilities and disabilities that are associated with students' well-being, achievement and relationships (Vernon & Bernard in Ellis & Bernard, 2006, pp. 415-423, See Appendix 1 for a short history of REE/REL).

Over the years, Professor Michael E. Bernard, the founder of the YCDI! Education approach, has developed a variety of YCDI! Education programmes for different age groups, from early childhood to adulthood, and also for parents. For the age of 4-7, there is the *YCDI! Education Early Childhood Program,* including a curriculum and parent guide as well as other additional materials. A complete programme designed in 6 volumes for different age groups, beginning with grade 1 to grade 12 is *Program Achieve.* Moving on to an older age, there is the *YCDI! Mentoring Program (Ages 12+)*, which is the very programme chosen for this study. For teachers, parents and/or caregivers, Bernard designed *Providing all Children with the Foundations for Achievement, Strengthening the Social and Emotional Capabilities of Young People. A Guide for Working with Teachers and Parents.* And because parenting and early child education play a crucial role in the harmonious development of a child, and the parent has a great responsibility in this process, there also is a programme especially for parents: *Investing in Parents.*

Professor Bernard advocates the study of the *"inside characteristics"* of young people which are indicators of young people's school success and well-being (Bernard, 1995, 2001, 2002, 2003a, 2003b, 2004a, 2004b, 2005). Drawing on the multiple REE/REL studies (See Bernard et al. in Ellis and Bernard, pp. 4-6 and Section 4.4 of this chapter), he concludes that no matter the children's home, background, and the type of school they attend, their potential and well-being is directly correlated with certain *"inside characteristics"*. He also states that the moment children are equipped with those *"inside characteristics",* they will cope better with school and life itself. Another important finding of these studies was that adolescents who present achievement problems tend to present delays in their socio-emotional capabilities, compared to adolescents who do not have achievement problems.

Wanting to concretise these *"inside characteristics"*, Bernard designed the YCDI! social-emotional framework (See Figure 4.1) identifying *five positive social-emotional skills* (the 5Keys) that bring success and well-being, and *five social-emotional blockers* that lead to lack of success and ill-being. As mentioned earlier, the 5Keys which are related to positive relationships, success and well-being are: getting along; organisation; persistence; confidence and emotional resilience; and the *five social-emotional blockers* are: feeling very angry; misbehaving/not paying attention; disturbing others; procrastinating; feeling very worried/very down, which are related to poor relationships, underachievement and poor mental health. Further, Bernard identified *12 Negative Attitudes* (also called Habits of the Mind which is used in the old YCDI! Education framework. See Appendix 2 and 3 for the old and updated YCDI! Education frameworks) that describe the *five social-emotional blockers* and *12 Positive Attitudes* that describe the *five positive social-emotional skills*. The *12 Negative Attitudes* are: breaking rules; acting without thinking; not accepting everyone; poor time management; having no goals; giving up; I can't be bothered; fixed mindset; I can't do it; needing approval; needing to be perfect; and self-downing. These negative attitudes are associated with different social and emotional disabilities such as anger, anxiety, depression and work avoidance. The *12 Positive Attitudes* he identified are: following rules; thinking first; accepting everyone; time management; setting goals; putting in effort; working tough; growth mindset; I can do it; being independent; taking risks; accepting myself, which are associated with positive social and emotional capabilities (Bernard, in Ellis & Bernard, 2006, pp. 324-326, Bernard, 2008).

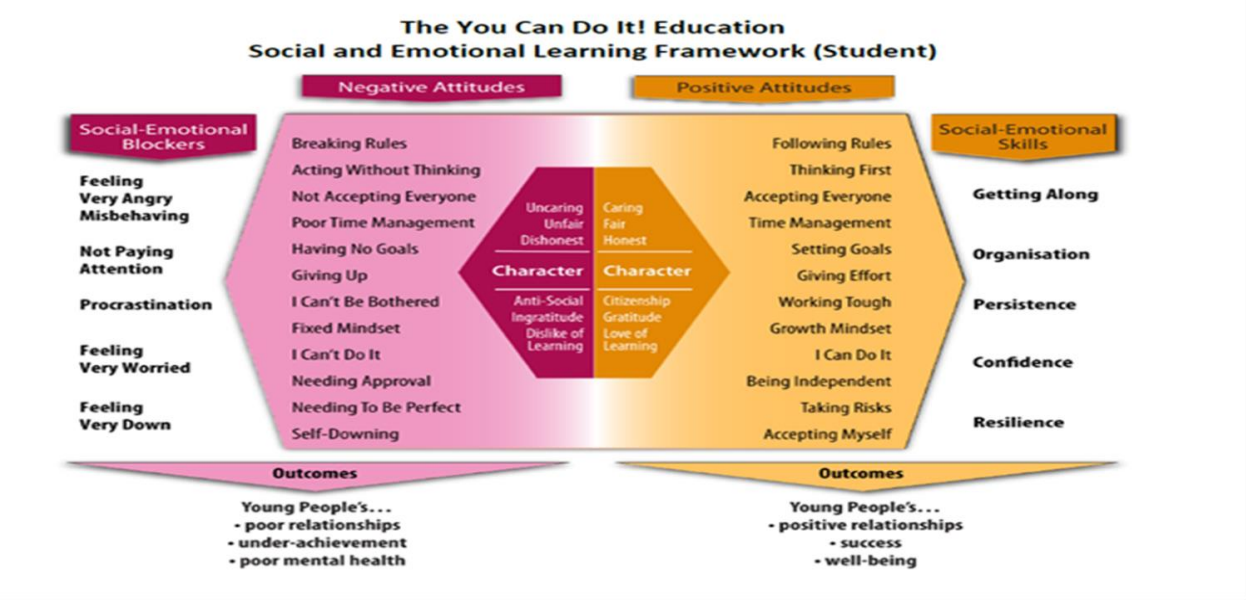


Figure 4. 1. The YCDI! Education social and emotional learning framework (Bernard, 2018).

The strength of the YCDI! Education framework, as represented in Figure 4.1, lies in the fact that it has a strong theoretical foundation drawing on various psychological and educational theories covering three types of social-emotional learning skills, which lead to achievement and well-being of young people, namely: learning dispositions, social skills, and emotional resilience (Bernard, 2017). It was Bernard who compiled these psychological and educational theories in the YCDI! Education social and emotional framework, and designed specific mentoring programmes and activities using these theories. In the paragraphs below, some of the theories which have been adopted and used for the activities of the YCDI! Education mentoring programmes are briefly listed (See Table 4.2 for concrete examples of the main theories reflected in the activities of the YCDI! Education mentoring programmes).

Primarily, using the REBT principles (Ellis, 1994), Bernard has designed activities focusing on the identification of the rational beliefs, which he calls the *Positive Attitudes*, that

can generate positive emotional and behavioural consequences. Conversely, what he calls the *Negative Attitudes* can lead to negative emotional and behavioural consequences. The positive consequences of the *Positive Attitudes* have been studied by Bernard and Joyce (1984), Bernard and Cronan (1999), and Ellis and Bernard (2006). They found that when children were taught to cherish a rational positive attitude towards life events in general, and school in particular, their behavioural and emotional state became more adapted. Weiner's (1979, 2000) and Rotter's (1966) theories on motivation as a mental habit, the locus of control and the attributional style as part of the social learning theory are also reflected in the theoretical framework. In Table 4.1 an overview of the *Positive Attitudes*/habits of the mind/ways of thinking/self-talk associated with each key and the *Negative Attitudes*/habits of the mind/ways of thinking/self-talk that need to be eliminated/restructured are presented.

Table 4. 1. Positive Attitudes/Habits of the Mind to develop and Negative Attitudes/Habits of the Mind to eliminate (Bernard, 2005)

Key	Positive Attitudes/Habits of the Mind to Develop
Confidence	Accept Myself + Take Risks + Be Independent + I Can Do It
Persistence	I Can Do It + Try Hard + Work Tough + Set Goals + Plan My Time
Organisation	Set Goals + Plan My Time
Getting Along	Be Tolerant of Others + Play by the Rules + Think First
	Negative Attitudes/Habits of the Mind to Eliminate
Emotional Resilience	Self-Downing + Needing Approval + Needing To Be Perfect + I Can't Do It + I Can't Be Bothered + Intolerance of Others

Further activities were designed making use of particular educational theories, such as Vygotsky's (1962, 1978) theory of cognitive development, who saw the regulation of children's behaviour as a core aspect of their social-cognitive development. Vygotsky assumed that

students learn more efficiently through their interactions with other, more advanced, students, their teachers and other experts. In his view, culture is a determinant factor for knowledge acquirement, peer interaction, following the rules, and it even shapes one's skills and abilities. Therefore, he recommends that school should create an environment that enables students to interact with other students through discussions, collaboration and proper peer and teacher feedback for an optimal social-cognitive development.

In addition, based on Bandura's social learning theory (1986, 1997), the importance of *self-efficacy* when undertaking something in order to be successful was included in the activities of the YCDI! Education programmes. Inspired by Bandura's studies, Bernard underlines the importance of the principles of social learning, combined with the opportunities given to children in order to develop their positive self-talk and self-efficacy that lead to strong confidence in one's abilities to succeed. This may have an impact on one's *sense of self* and *self-image*. The internal and external sources of self-efficacy that influence one's self-image and sense of self are: (1) *mastery* (past successes and failures), (2) *vicarious learning* (successes and failures of people they relate themselves with), (3) *observational learning* (successes and failures of role models), and (4) *present state* (perception of current mental and physical health condition). It is essential to mention that, self-efficacy is not similar to self-image, self-worth, or any other related construct. The two stand as separate constructs. Even though self-efficacy is related to people's sense of self-worth or value as human beings, there is at least one main difference between these two. Self-esteem is defined as a kind of general or overall feeling of one's worth or value and it focuses more on "being" (e.g., feeling that one is perfectly acceptable as he is), while self-efficacy focuses more on "doing" (e.g., feeling that one is up to the challenge). A high self-worth can positively contribute to one's sense of self-efficacy, the

same as high self-efficacy can improve one's sense of overall value or worth (Jaaffar, Ibrahim, Rajadurai, & Sohail, 2019).

Furthermore, making use of Seligman's (1975, 1991) optimism theory, which claims that beliefs of optimism and helplessness can be learnt, Bernard developed activities that are meant to positively stimulate children's confidence, which stresses the importance of positive self-talk. Also, Meichenbaum's (1977) method of self-instruction and self-talk, and Spaulding's (1993) theory about cognitive internal motivation strategies are reflected in Bernard's mentoring programmes as the so-called "*positive self-talk and negative self-talk*".

Next, emotional regulation activities were designed based on the results of the empirical studies of Chandler and Shermis (1985), Landy (2002) and Henderson, Kelbey & Engebretson (1992). The main finding of these studies was that when children fail to develop "age-appropriate emotional control for regulating intense emotional states", they risk developing behavioural and emotional problems that can lead to psychopathologies such as: character disorders, anxieties and phobias, psychotic symptoms, depression, bipolar disorder, and conduct disorder with aggression, including drug and alcohol abuse.

Additionally, regarding the strategies of solving interpersonal cognitive issues, inspiration was taken from the studies of Spivack, Platt, and Shure (1976). Lastly, regarding the cognitive aspects of academic procrastination, Solomon's and Rothblum's (1984) studies were used; Schunk's (1996) study on goal setting; and Brenner and Salovey (1997) on resilience regulation. Table 4.2 presents an overview of how these theories are concretely reflected in the YCDI! Education framework.

Table 4. 2. Overview of psychological and educational theoretical constructs reflected in the YCDI! Education framework.

Author(s)	Psychological and educational constructs	Actual examples of activities included in the Mentoring Program*	Reflected in the YCDI! Education framework
Vygotsky (1962, 1978)	Behaviour regulation Learning in a social context (learn from each other)	Confidence building self-talk Getting along in difficult situations Are you a good or poor time manager? Keeping things in perspective	Confidence, getting along, organisation, emotional resilience
Ellis (1994)	Rational and irrational beliefs Emotional regulation Self-talk	Countering negative self-talk into positive self-talk Confidence/persistence/organisation /getting along/emotional resilience self-talk	Confidence, persistence, organisation, getting along and emotional resilience
Bandura (1986, 1997, 2012)	Self-efficacy Social learning theory (observational learning) Positive/negative reinforcement Choices regarding behaviour Motivation and thought patterns and responses	Degrees of confidence It's hard to be persistent Goal setting and commitment Important rules that make your world a better place Keeping things in perspective	Confidence, persistence, organisation, getting along and emotional resilience
Seligman (1975, 1991)	Learnt optimism and helplessness	Confidence boosting self-talk Countering negative self-talk into positive self-talk	Confidence, emotional resilience
Meichenbaum's (1977)	Self-instruction and self-talk	Confidence/persistence/organisation /getting along/emotional resilience self-talk	Organisation, confidence, persistence, emotional resilience
Spaulding (1992)	Cognitive internal motivation strategies Self-talk	Confidence/persistence/organisation /getting along/emotional resilience self-talk	Confidence, persistence , emotional resilience
Rotter, (1966) Weiner, (1979, 2000)	Motivation as a mental habit Locus of control Attributional style	Building my confidence Monthly assignment calendar Mistakes happen	Emotional resilience, organisation, confidence; persistence
Brenner and Salovey (1997)	Resilience Positive self-talk and self-regulation	The key of emotional resilience Confidence/persistence/organisation /getting along/emotional resilience self-talk	Emotional, persistence , confidence
Chandler and Shermis, (1985) Landy (2002)	Age-appropriate emotional control for regulating intense emotional states (emotion regulation techniques, putting things into perspective)	Keeping things in perspective Relaxation Diversions Talking it out	Emotional resilience
Spivack, Platt and Shure (1976)	Strategies of solving interpersonal cognitive problems through structured cognitive approaches.	Countering negative self-talk into positive self-talk Confidence/persistence/organisation /getting along/emotional resilience self-talk	Confidence, getting along, emotional resilience

Solomon and Rothblum (1984)	Cognitive aspects of academic procrastination Fear of failure and risk-taking	Taking risks and making mistakes is not so bad Exam anxiety check-up Positive self-talk for controlling shyness	Confidence, persistence, organisation, getting along and emotional resilience
Schunk (1996)	Setting goals and self-evaluative influences during children's cognitive skill learning	What is a goal? Goal setting or not? Taking control of your future Confidence/persistence/organisation /getting along/emotional resilience self-talk	Confidence, persistence, organisation, getting along and emotional resilience
Henderson et al. (1992)	Emotional regulation to cope with adversity	Bad stuff happens We all have emotions Emotional reactions Countering negative self-talk into positive self-talk	Emotional resilience, confidence, persistence

Note. *A list with the complete activities in the Programme can be found in Appendix 4.

In order to combine and put into practice all these theoretical notions and perspectives, a series of curricula have been designed in order to support communities, schools and homes to stimulate and optimise the social, emotional, and academic outcomes of young people. One original particularity of the YCDI! Education framework is that it targets not only the students' success and well-being during school time, but also their after-school functioning. Thus, some of the methods applied in the programme have been designed as a tool for both teachers and parents. When a programme is implemented in a school, sometimes all teaching staff is trained to work together in order to gain good results, particularly for the behaviour specific feedback that is given to the children.

The effectiveness of the YCDI! Education programmes has been studied intensively and time and again it was found that it helps children to self-regulate and surpass their underachievement state. The most important studies are presented in the next section.

4.4 Implementation and research

Over the years, the YCDI! Education programmes have been implemented at different levels from kindergarten to college levels, in countries such as the USA, Canada, Spain, France, Romania, Vietnam, Singapore, New Zealand, Australia, the United Kingdom, Ireland, Greece, Estonia, Singapore and Japan. When used, the programmes have not necessarily been implemented continuously, and there is no extensive record of the schools that might be using them today. In countries like Romania, Vietnam and Singapore, the programme is still in the early stages of implementation. The official YCDI! Education site, last updated in 2017, claims that the most significant implementation has been in Australia, where over 1,000,000 young people have participated in YCDI! Education programmes, with 1,000 early primary and secondary learning centres. The site also states that more than 6,000 schools are already using the *YCDI! Investing in Parents Programme*, in order to bridge the school-home intervention in preventing the behavioural and emotional problems of young people. The target groups for the programmes are a broad range of students, from the very gifted and talented ones to students with special needs, as well as to those from indigenous and non-indigenous communities.

As already mentioned, the YCDI! Education method is a REE/REL approach. Both YCDI! Education and REE use the same educational and psychological theories, constructs, principles and best practices. It is important to bear this in mind during the reading of this section, so that there is no confusion about the terminology and the programmes used as interventions in the experimental studies. Another important aspect to be noted is the terminology used. Recently, in 2017, the theoretical framework of YCDI! Education was improved and the terminology slightly changed. These changes in terminology might create some confusion when reading older studies on YCDI! Education if one does not know this detail

(See Appendix 2 and 3 for the comparative models). In the following paragraphs, a few studies reporting on REE/REL results will be presented first, followed by studies on YCDI! Education method.

Besides Bernard's programmes, other researchers have developed educational programmes inspired by REE/REL. These programmes are being successfully implemented in schools, or as a form of therapy/counselling for young people and underachievers, such as the emotional-behavioural programmes of Knaus (1974) and Vernon (1989). The REE strategies and principles have been studied extensively by Bernard and Joyce (1984), Gerald and Eyman (1981), Knaus (1974), Vernon (1989), Vernon and Bernard (2006), Bernard (2004a), Bernard and Cronan (1999), DiGiuseppe and Bernard (2006). In their research, they have taught children the principles of rational emotional education, focussing on accepting responsibility for their emotional state, emotional regulation, techniques to diminish the self-defeating attitudes, behaviours and feelings, and how to improve the way they function in general.

At the University of Melbourne, Bernard and Hajzler (1991) conducted a review and meta-analysis of the REE outcome studies. At that time, they identified 46 articles, 21 of which had been published in scientific journals, and 25 were Master's theses available only through Dissertation Abstract International. They analysed the studies performed between 1967 and 1991, grouping them in studies on nonclinical populations, studies on highly anxious students, studies on disabled students, studies on high-risk adolescences, on low self-esteem, single-subject case studies and follow-up studies. These studies will not be dealt with here since Bernard and Hajzler's review is available for this purpose, providing a rigorous ranking as well as an organized overview by year published, subject characteristics and sample sizes, duration of treatment and design and dependent variables. With the exception of the case studies included in

the aforementioned review, all the studies were designed with a control group. Moreover, apart from three studies that used a posttest only, all studies were designed with pretest and posttest measurements. According to the results of this meta-analysis, including different REE programmes, the anxiety index decreased among students in 80% of the studies, irrationality decreased in 88% of the studies, locus of control increased in 71% of the studies, self-esteem increased in 57% of the studies, maladaptive behaviour decreased in 56% of the studies, and neuroticism decreased among students in 57% of the studies. Moreover, the review consistently showed that when irrationality in subjects decreased, there were also changes in other dependent measures (positive behavioural and emotional changes).

School based prevention and intervention social-emotional programmes and curricula are called social emotional learning (SEL) (Bernard & Walton, 2008). The effect of SEL programmes were analysed in a major meta-analysis (CASEL, 2010) of 213 SEL studies involving a group of 270,034 students from rural, suburban, and urban elementary and secondary schools. The meta-analysis project, was directed by the University of Illinois at Chicago Social and Emotional Learning Research Group and the Collaborative for Academic, Social, and Emotional Learning (CASEL), a not-for-profit research organization, and it is the first meta-analysis of outcome research on social and emotional learning programmes that took place during the school day. The combined results of the studies showed that students who participated in school-based SEL programmes showed significant improvements which persisted over time in multiple ways when compared to students who did not experience SEL programmes with respect to: social and emotional skills, attitudes about themselves, others, and school, social and classroom behaviour, conduct problems such as classroom misbehaviour and aggression, emotional distress such as stress and depression, and achievement test scores and

school grades, including an 11-percentile-point gain in academic achievement. Similar significant positive results were also reported in Durlak, Weissberg and Pachanthe's (2010) meta-analysis of after-school SEL programmes which shows that social-emotional programmes are effective even when they are implemented in after-school programmes.

Summarizing, the results of the studies reviewed above, Bernard (2017), and other researchers in the field, conclude that the impact of REE/REL/SEL is substantial, and they recommend the implementation of prevention-intervention social-emotional programmes in schools for both students and teachers. Bernard supposes that, by implementing such programmes, underachieving students will practise the 12 Habits of the Mind to master the 5Keys, resulting in improved behavioural and emotional functioning.

The following studies used one of the YCDI! Education programmes that focus on teaching young people the positive socio-emotional Habits of the Mind (the old term for Attitudes, see Appendix 2 and 3 for the old and updated YCDI! Education frameworks, and Section 4.3 for the description of the theoretical framework) and the 5Keys. It is important to mention that the YCDI! Education research studies in this section are presented separately. Although desirable for a project like this, till the date of publication of this dissertation, there was no meta-analysis conducted estimating the overall intervention effect across the available studies. Furthermore, it was not possible to perform a meta-analysis because the available individual studies did not meet the criteria to do this. Most studies were case studies instead of experimental studies with a proper randomized or pretest-posttest control group design. Most of the published studies available were performed in kindergarten, primary education, only a few in secondary education, and none in tertiary education. In secondary education, there was only one study with a randomised control group design, which was an unpublished Master thesis (Brown,

1999). The majority of the studies had a rather small sample. There was only one study with a similar sample size as in this study, but not in the Dutch context. Moreover, as some of the studies were reported in unpublished manuscripts, Master theses or conference papers that were not available online, only summaries of the studies in other publications could be used as source of information. Because of this lack of access to the complete studies, only partial statistical data could be retrieved. This is the reason why many of the reviewed studies lack details on the specific research outcomes. Most importantly, in almost all reviewed studies data about the effect size are absent. All these limitations of prior studies as well as the impossibility to conduct a meta-analysis made it difficult to estimate beforehand the size of the effect of the programme that could be expected in our study, based on the effects that were found in prior studies.

The studies on the effects of the YCDI! Program present data that claim that teaching social-emotional skills to students may help them to achieve better at school and improve their social-emotional well-being. Two of the studies (Campbell, 1999 and Day, 1998) are unpublished case studies that did not use control groups, and, in consequence, we cannot draw causal conclusions based on them. Nevertheless, they provide some empirical support for the usefulness of teaching social-emotional competences in schools.

Day (1998) performed a programme evaluation and observed the impact of the YCDI! Program Achieve on grades and truancy of 100 high school students, with ages ranging between 14-16. The students were selected by their teachers based on their poor performance and they divided them into groups not bigger than 12 students. Each group received lessons using the programme during regular school time taught by school teachers who had previously been trained in working with the programme. After 16 weeks of weekly meetings and working with

the method, it was observed that 70% of the students were rated by their teachers as having improved in terms of their grades, attendance, and in the relationships with their fellow students and tutors. No control group was used, which makes it difficult to say that it was only the YCDI! Program Achieve that played an important role in the changes. That is why it remains in the category of a case study, and it is not considered a solid scientific experiment.

In the same category of case studies, Campbell (1999) evaluated the YCDI! Program Achieve among 32 students in grade 6 from a disadvantaged community. The purpose was to observe the absence or presence of the 5Keys in relation to the results of students' standardised achievement test scores. The experimental group received YCDI! Program Achieve lessons for a whole year. At the end of the school year, it was observed that 96% of the students who had been exposed to the programme were rated by their teachers as having increased in the use of the 5Keys. The increase was also reflected in their Maths, English and Science grades. The improvement was attributed to the strategies children learnt via the lessons they had received on YCDI! Program Achieve, but since there was no control group, we cannot conclude that the changes observed in the students were (solely) caused by the YCDI! Program Achieve.

Hudson (1993) in a design with an experimental and control group, implemented the *You Can Do It Too! Motivational and Personal Development Video Program* for 60 students in grades 5 and 6, 34 males and 26 females, in a high-migrant area in Melbourne, who were randomly assigned to take weekly social-emotional lessons from the programme. A combination of interactive group activities taken from the programme, supported by video viewing was used. The results of the study showed that the *You Can Do It Too! Program* showed significant statistical improvements in reading and maths scores in the experimental group, measured with two standardised achievement tests, compared to the progress in achievement that the control

group showed. Because of the involvement of the experimenter during the experiment, a fact that might have influenced the outcomes of the study, a follow-up research study was recommended.

Pina (1996) studied the effect of the *YCDI! Program Achieve* on the homework performance, academic engagement, and achievement of 49 underachieving students in California. The participants were 31 males and 18 females, who were 5^{th} and 6^{th}-grade students selected by the teachers first, and then randomly assigned to an experimental group (receiving two sessions per week during a 6-week period on confidence, persistence, organisation and the associated Habits of the Mind) or to a non-treatment control group. Compared to the progress in the control group, teachers observed an increase in their students' grade point average ($p < .07$ univariate significant effects were obtained for history and science) and also in the effort and quality of their homework. It was also noticed that there was an increase in underachievers' use of the positive Habits of the Mind associated with their confidence, persistence and organisation skills, and in the effort they put in doing their homework and the results they got.

Brown (1999) investigated the impact of the *YCDI! Mentoring Program* on the achievement of students with motivational, learning and reading deficiencies, in an experiment with an experimental and control group. The target group included 36 students aged 13-14 years enrolled in an after-school club in California. The student participants were randomly assigned to the experimental or control group. The students in the experimental group received lessons using the programme, while the students in the control group received regular coaching sessions. The coaching sessions were administered in weekly sessions during a whole term. The statistical analysis showed that the underachievers' academic achievement (their grade point average and their display of the 5Keys) in the experimental group was rated significantly higher by their

coaches at the posttest than the academic achievement of the underachievers in the control group.

Bernard (2008) implemented the *YCDI! Program Achieve* to evaluate the impact of the programme on emotional resilience, studying 61 primary school students, grades 4-6, who had been randomly selected from a group of students with social, emotional, behavioural and academic difficulties. The ACER Social and Emotional Well-Being Surveys were used as measurement instruments. The experimental group received an 8-week programme, the *YCDI! Programme Achieve*, while the control group received an 'eclectic' intervention. The results of the study showed an overall positive impact ($p < .01$) of the *YCDI! Programme Achieve,* based on the teachers' ratings of the students, on the resilience items for the experimental group ($p < .01$), while the control group showed no positive change ($p = .56$).

Bernard and Walton (2011) experimented with a whole school approach, using the *YCDI! Program*, in a research design with 6 experimental schools and 6 control schools. The students in both groups were in grade 5, and the duration of the experiment was a complete school year. The measurement instrument was the Attitudes to School Survey filled in by all the students once at the end of the school year, and again at the end of the following school year. The results showed a significant improvement in student well-being for those who were taught the *YCDI! Program* ($p < .01$). More concretely, the students rated themselves at the posttest higher on morale (confidence), lower on stress, and higher on school connectedness, motivation, learning confidence, social behaviour and cooperation, and classroom behaviour and safety. The results for the control group showed a statistical significant value, too, ($p < .01$), but they showed improvement only for two scales: student safety and classroom behaviour.

Ashdown and Bernard (2012) implemented the *YCDI! Early Childhood Education Programme* to see the effect of the programme on social-emotional competence, well-being, and academic achievement. The participants were 99 Prep and Grade 1 students of a Catholic school in Melbourne, in a 10-week programme with an experimental and a control group. The results of the study showed a statistical improvement among the students who received the *YCDI! Early Childhood Education Program* ($p < .01$). An improvement of the social-emotional competences and well-being, a reduction of behavioural problems (internalising, externalising and hyperactivity problems), and an increase in the reading skills of the underachievers of the experimental group were observed by the teachers.

Markopoulos and Bernard (2015) evaluated the *YCDI! Bullying: The Power to Cope* (Bernard, 2012) programme, which is meant to prevent the effects of bullying by teaching children cognitive-behavioural skills. A pretest-posttest design with an experimental and control group was used. The participants, 139 students (N=80 experimental and N=59 control, 71 males and 68 females), with an age ranging from 10 to 14, were randomly selected from 3 different schools in Melbourne. According to the post test results, it could be seen that the children who participated in the programme were evaluated by their teachers as showing an improvement in the cognitive and emotional coping strategies ($p < .01$). Furthermore, it was observed that these coping strategies were reported to be higher in females than in males.

In a rural community in Victoria, Bernard (2017) evaluated the impact of the *Attitudes and Behaviours for Learning (AB4L)* programme on the reading achievement of students falling behind in a pretest-posttest experiment with an experimental and control group (N= 98 experimental group and N= 86 control group) by teaching students five positive attitudes and behaviours for learning (positive student mindset, sharing goals of lesson, communicating

behaviour specific feedback for learning, describing behaviours for learning, and positive/negative self-talk) during reading classes. The results for the experimental group were twofold: increased student rated learning behaviour ($p < .01$), teacher rated learning behaviour ($p = .03$), and increased reading performance ($p = .03$), in comparison with the control group ratings.

In the Tokyo Metropolitan Area, Yamamoto, Matsumoto and Bernard (2017) evaluated the effect of the *YCDI! Education Program* in an experimental (N= 78) and control (N= 47) design with fourth grade elementary pupils. The experimental group was taught lessons about resilience and the thinking-feeling-behaving relationship in eight sessions. The findings showed significant higher resilience ($p < .01$) and social support skills ($p < .01$) among the children of the experimental group as reported by their teachers, compared to no reported change in these skills displayed in the control group ($p < .01$) .

The latest studies regarding the effects of *YCDI! Education* (Ashdown & Bernard, 2012; Bernard, 2008a, 2008b, 2017; Bernard & Anglim, 2012; Bernard & Walton, 2011; Daniela & Bernard, 2011; Markopoulos & Bernard, 2015; Yamamoto, Matsumoto & Bernard, 2017) all point to an increase in school achievement and social resilience of the children who benefited from the *YCDI! Education* programmes. It is difficult to keep track of all the studies that have been inspired by Bernard's programme because some of them have remained unpublished. Others are Master's theses or doctoral dissertations, such as those of: Brooks, (1999); Eddy (2000); Budekke (2002); Day (1998); Campbell (1999); Hudson (1993); Pina (1996); Brown (1999). They tested the *YDCI! Education* programme, more precisely *The Five Foundations of the Mind/5Keys*, in different schools and on different student age-groups. They unanimously concluded that the programme is functional and can help intellectual and social underachievers

to surpass themselves and develop those *inner qualities* young persons need to become successful in school or in their private life. Their studies were not available, because they were never published, but their results were included in Bernard's (2006) review, covering the studies performed during 1995-2004. All those studies concluded that: "the effort and achievement of students can be increased when they are directly taught social-emotional competencies that are referred to as the *Foundations for Achievement/5Keys*, which are: confidence, persistence, organisation, getting along, and emotional resilience" (Bernard, 2006, p. 116).

4.5 Conclusion

YCDI! Education, a REE derivative, was identified to be an approach that offers useful activities and instruments to help underachievers improve their behavioural and emotional functioning (the 5Keys), at and beyond school. The YCDI! Education programmes have been implemented in thousands of schools in Australia alone, and many other countries around the globe. Positive results reported in studies that evaluated YCDI! programmes conveyed overall improved students' self-image and emotional resilience, improved ability to cope with stressful events, improved ability to relax when anxious, angry or down, an improved emotional regulation, and evidence of higher levels of confidence while facing difficulties.

An important observation about these studies is that some of them had no control groups for comparison purposes with the experimental groups and the student samples were rather small in most studies. This aspect refers mainly to older studies. Another observation is that most of the studies had as target group early childhood and primary school children. As for the YCDI! Mentoring Programme, there is only one study (Brown, 1999) that experimented with secondary school children, using a very small sample of 36 students randomly assigned to the experimental

and control group. Furthermore, there is no study that reports on an implementation of any YCDI! Education programmes in tertiary education (Bernard, 2017).

The current study, reported in this thesis, can be considered as a replication and extension study of the former studies reported above. The effectiveness of the YCDI! Mentoring Program was re-evaluated in an experimental setting, but this time in the Dutch context among two different age groups (secondary school and tertiary education students). An additional variable was added to the research design, namely student-related teacher stress (only for the secondary school experiment), in order to establish whether the YCDI! Mentoring Program is also effective for reducing student-related teacher stress and, if so, whether this is related to the improvement of students' behaviours and emotions (the 5Keys) as a result of the programme.

Chapter 5 Research method

5.1 Introduction

Based on the reviews of the literature presented in Chapters 2, 3 and 4, the following decisions were made for the set-up of the intervention studies. First, based on the literature review in Chapter 3, it was concluded that the rational-social-emotional-cognitive-behavioural theoretical framework is the most suitable to explain students' behavioral and emotional (mal)adaptations and (under)achievement. Therefore, it was decided to choose an intervention programme related to that framework. Second, the review of evaluation studies (Chapter 4) showed that the YCDI! Education programmes based on that framework, showed rather positive results on students' behaviour and emotions when implemented in classrooms. In particular the YCDI! Mentoring program (Bernard, 2005) seemed to be a very promising programme to be implemented in secondary education and higher professional education classes. Third, because the five positive behaviors and emotions this programme is based on (confidence, persistence, organization, getting along and emotional resilience - the 5Keys), which are well-related to the theoretical framework (Chapters 3 and 4), they were used as indicators to evaluate the effectiveness of the intervention. Fourth, only in the secondary education experiment student-related teacher stress was included as a dependent variable, in addition to students' behavioral and emotional adaptations (the 5Keys), which is the focus of the program. This decision was made because students' maladaptations were reported in the literature as a main source of teacher-related teacher stress in secondary education, but not in tertiary education. Finally, the student-related teacher stress survey was designed in accordance with the frequently mentioned student behavioural and emotional maladaptations, the 5Keys, reported in the literature and the

definition of teacher stress. In sum, the above mentioned decisions imply that two interventions were implemented, one in secondary education and one in tertiary education. At both school types, the same YCDI! Mentoring Program was implemented and a pretest-posttest control group design was used to evaluate its effects. In both experiments, the 5Keys were the main indicators for establishing the effects of the programme, and only in the secondary education experiment student-related teacher stress was measured as an additional dependent variable.

In this chapter, the research methods that were used in both intervention studies will be described in the following order: the design of the studies (Section 5.2), the samples (Section 5.3), the variables and instruments (Section 5.4), the procedure (Section 5.5) and the data analyses (Section 5.6).

5.2 Design

In both intervention studies, an experimental pre-posttest control group design was applied. In the experimental groups, the YCDI! Mentoring Program was implemented (See Chapter 4), while the control groups received a 'treatment as usual'. The first study was conducted at one school for secondary education with two locations in the North of the Netherlands. The director of the school randomly assigned (lotting) one location to the experimental group and the other location to the control group. At both locations all students in the first and second grade (two classes per grade and per location) participated in the study, as well as the coaches and regular teachers of these classes. In order to control for potentially confounding variables, such as teachers and/or students from the experimental condition sharing their experiences with the Program to teachers and/or students in the business-as-usual condition, it was decided to randomize the school locations instead of randomly assign students from both schools to the two conditions. Another reason considered when choosing to experiment with

natural classes was that students were coached by one mentor in already pre-programmed groups. The management informed the parents of the children participants about the experiment and they were asked for their informed consent. The second study was conducted in an Applied Sciences University in the North of the Netherlands. The participants in this study were four groups of first year students (February starters), of which two groups were randomly assigned to the intervention group and two to the control group by the programme manager by drawing lots. Also, per natural group of students, two teachers who gave regular classes to the participating students were involved in the study. The natural groups were randomized to the experimental and control conditions because in tertiary education each group is coached by one coach and they attend other classes in the same group. The samples are described in more detail in Section 5.4.

Prior to the start of the interventions, pretests were taken to measure the students' level of adaptive behaviours and emotions (the 5Keys) as perceived by the students as well as by their teachers (in secondary education only for underachievers). In addition, in the secondary education experiment, a pretest for teachers' self-perceived student-related teacher stress was taken. After the intervention, which lasted a whole school year in secondary education and a whole semester in tertiary education, the same measurement instruments were used for the post-test. More information about the measurement instruments and intervention procedures can be found in Sections 5.4 and 5.5, and the complete surveys used in the studies can be found in Appendix 6.

5.3 Samples

The student sample of the first intervention study consisted of all the students in the first and second grade classes of the two locations of the participating school for secondary education,

of which one location was assigned to the intervention group and the other to the control group. Data on effect sizes from prior large-scale experimental studies on YCDI! program in secondary education were not available, therefore, it was impossible to estimate how large the expected effect size could have been expected and how large the sample should have been to find this effect. However, based on prior studies on the effects of other group-based social-emotional interventions in Dutch secondary education, we expected to find an overall effect size of .50 (a medium effect). With an expected effect size of .50 and statistical power of .80 to detect real effects, a sample of at least 126 students was needed. The total number of participating students was 144, which were equally divided across the experimental and control group, such that each group consisted of 72 students and 4 classes. Both locations had the same language of instruction, working culture and teaching materials, but they were geographically located in two different parts of the province. The average age of the participating students was 12 for the first grade students and 13 for the second grade students. The details on student distribution across experimental and control group, grade and gender are presented in Table 5.1.

Table 5. 1. Number of student participants and gender distribution in the secondary education sample.

		Experimental		**Control**	
		Pretest	**Posttest**	**Pretest**	**Posttest**
Participants	1st year (2 classes)	28 (39%)	28 (39%)	36 (50%)	36 (50%)
	2nd year (2 classes)	44 (61%)	44 (61%)	36 (50%)	36 (50%)
Gender	Male	31 (43%)	31 (43%)	34 (47%)	34 (47%)
	Female	41 (57%)	41 (57%)	38 (53%)	38 (53%)
Total		**72 (100%)**	**72 (100%)**	**72 (100%)**	**72 (100%)**

The Mentoring Program was implemented by four teachers, who were the coaches of the four classes participating in the experimental group. These four coaches (2 males and 2 females between 28 and 44 years of age with a teaching experience between 5 and 20 years) also filled in

the evaluation forms for the underachievers, as did the coaches in the control group. This latter group consisted of 2 males and 2 females between 30 and 58 years of age with a teaching experience between 8 and 25 years. Finally, the sample of teachers who filled in the teacher stress questionnaire, consisted of all teachers who had regular contact hours with the participating classes, totaling nine teachers in both the experimental and control group. The two teaching teams did not differ significantly in their teaching experience (between 5 and 25 years) and age composition (28 to 56 years old). The gender distribution in the two groups was different: the experimental group contained more women than men (7 versus 2), while in the control group there was a more equal gender distribution (4 versus 5).

Following the 1st experiment, it was decided to adapt the implementation of the second intervention from whole group-based to implementation in small groups and mostly one-on-one coaching. Hence, we decided to limit the sample size to two classes (N= 31) to keep it feasible to implement. The statistical results, therefore, reveal tentative findings, as the minimal required sample size for detecting real effects could not be reached. The sample of college students in the second experiment consisted of four first-year February Starters groups, including 62 students, 31 students in both the experimental as well as in the control group. Their age ranged in both groups between 18 to 23 years old. As for the distribution across nationality, the experimental group consisted of more international students (German, Chinese, East European and African) than Dutch students, while in the control group, there were more Dutch students than international students (German, African, East European). More sample details are described in Table 5.2.

Table 5. 2. Nationality and gender distribution in the college students sample.

		Experimental		Control	
		Pretest	**Posttest**	**Pretest**	**Posttest**
Nationality	Dutch	8 (26%)	8 (26%)	19 (61%)	19 (61%)
	International	23 (74%)	23 (74%)	12 (39%)	12 (39%)
Gender	Male	21 (68%)	21 (68%)	19 (61%)	19 (61%)
	Female	10 (32%)	10 (32%)	12 (39%)	12 (39%)
Total		**31 (100%)**	**31 (100%)**	**31 (100%)**	**31 (100%)**

Four teachers in the college study course, 2 females and 2 males, aged between 35 and 42 years, and each with more than 10 years of teaching experience, filled in the assessment form for each student.

5.4 Variables and instruments

The first outcome variable, which was measured in both studies was the students' level of adaptive behaviour and emotions, namely the 5Keys. This variable was measured in two ways, both in the pre- as well as in the posttest. First, students filled in the self-assessment instrument *My keys to success and happiness* (Bernard, 2005), a 25 item screening tool, which was translated into Dutch. The scale was divided into five subscales, according to the major topics of the Program, i.e.: confidence (5 items), persistence (5 items), organisation (5 items), getting along (5 items) and emotional resilience (5 items). On a 10 point scale, the rating of 9/10 means that the student displays a certain behavior "very often", while a rating of 1/2 means that the student "never" displays that particular behaviour or skill.

The results regarding the internal reliability of the scale differed to some degree between the secondary education and college students, although in both studies the Cronbach's Alpha test for the overall 5Keys scale showed high values (.87 and .80 respectively for the pretest and .82 and .93 for the posttest). As for the subscales, different values were found. For the pretest

taken among secondary education students, all subscales generally showed acceptable reliability values, except for the Emotional Resilience subscale (.53). As for the posttest in secondary education, two subscales showed low reliability values, namely Confidence (.32) and Emotional Resilience (.36). The results for the college students scale show sufficiently high reliabilities for all of the subscales except for Confidence (.33). Table 5.3 shows the reliability coefficients for all subscales in both studies, and some example items.

Table 5. 3. Reliability coefficients for the whole scale and subscales of Student Form My Keys to Success and Happiness, both studies.

			Study 1		**Study 2**	
Subscale	**Example items**	**N of items**	**M1**	**M2**	**M1**	**M2**
Confidence	I work hard without asking for help. I am confident when doing school work.	5	.62	.32	.33	.67
Persistence	I concentrate well when working. I keep on trying even when school work is hard.	5	.73	.69	.74	.84
Organisation	I plan when I will do homework so that I have enough time. I am organised in doing school work.	5	.79	.78	.77	.88
Getting along	I work cooperatively with other class mates. I follow class rules.	5	.61	.60	.58	.73
Emotional Resilience	I get angry but I calm down soon. I am good at not getting too down and feeling hopeless when I get a bad mark or when someone is mean to me.	5	.53	.36	.64	.80
Scale		25	.87	.82	.80	.93

Notes. *M* = measurement; *N* = number; α = Cronbach's Alpha

The second measurement instrument for the 5Keys that was used in both studies, both in the pretest as well as the posttest, was the *The Evaluating Student's Foundations for achievement: Teacher Form* (Bernard, 2005), which was also translated into Dutch. In the study in secondary education, this form was filled in by the coaches of the classes for 10 underachievers, while in the study in tertiary education, this was done by the regular teachers for

each student. This form included the same items as the student self-evaluation questionnaire (*My Keys to Success and Happiness*), but this time from the perspective of the coach or teacher.

For the overall scale**,** the internal reliability Cronbach's Alpha showed high values in both studies, .93 for both measurement moments in study 1, and .90 and .92 in study 2. As for the subscales, the internal reliability values of the secondary school respondents for the posttest were all above .70 while for the pretest two subscales presented lower values (Confidence .66 and Getting Along .57). In the college experiment, all reliabilities, both for the pretest as well as the posttest were above .70. Table 5.4 includes the reliability coefficients for all subscales, in both studies and some example items.

Table 5. 4. Reliability coefficients for the whole scale and subscales of The Evaluating Student´s Foundations for achievement: Teacher Form; both studies.

			Study 1		**Study 2**	
Subscale	**Example items**	**N of items**	**M1**	**M2**	**M1**	**M2**
Confidence	Works hard without asking for help. Is confident when doing school work.	5	.66	.76	.75	.73
Persistence	Concentrates well when working. Keeps on trying even when school work is hard.	5	.92	.83	.77	.84
Organisation	Plans when he will do homework so that he has enough time. Is organised in doing school work.	5	.92	.78	.81	.85
Getting along	Works cooperatively with other class mates. Follows class rules.	5	.57	.73	.81	.71
Emotional Resilience	Gets angry but calms down soon. Is good at not getting too down and feeling hopeless when he gets a bad mark or when someone is mean to him.	5	.77	.88	.84	.78
Scale	Confidence, persistence, organisation, getting along, emotional resilience.	25	.93	.93	.90	.92

Notes: *M* = measurement; *N* = number; α = Cronbach's Alpha

The third measurement instrument was the student-related teacher stress questionnaire, to be filled in by the regular class teachers in study 1. This instrument consisted of 31 items, of which 6 items were formulated based on the most common emotional and behavioural issues

experienced by secondary school students as reported in the literature (See Chapter 3) and 25 items were based on the 5Keys. The teachers had to rate on a five-point Likert scale ranging from *not at all stressful* (1), to *extremely stressful* (5) how stressful they found it when students were, for example: verbally aggressive, disturbed other classmates, did not work hard, gave up when school work was hard, were disorganised in doing school work, did not work cooperatively with other class mates, got angry and could not calm down soon, etc.. The total scale was, despite the small number of respondents, very reliable (Alpha coefficients for both pre- and posttest were higher than .90).

5.5 Procedure

The Mentoring Program was purchased directly from the developer, Professor Michael Bernard, who also provided the surveys for the measurement of the 5Keys. Because the Program and surveys were originally written in English, the doctoral student translated them into Dutch and digitalised them. Further, a member of the faculty staff revised the translation of the Mentoring Program and surveys. The Dutch version of the Program was used for the first experiment in a secondary school, while the English version was used for the second experiment in tertiary education.

For the first experiment, the secondary school was approached via the first promotor, who contacted the school principal and invited him to participate in the experiment. The programme was presented first to the team leader who assessed the programme and agreed to participate. At the same time, the details about the experiment were discussed and agreed upon, and a formal request was handed in. The experiment started in mid July 2013, and ended at the end of the school year, in 2014.

The Mentoring Program was presented to the four coaches, who would implement the Mentoring Program in their classes, by the doctoral student. The presentation was organised before the summer holiday, so that the coaches received the materials before the start of the school year in order to familiarise themselves with the programme. All chapters and concepts in the programme were discussed as well as the steps to be taken in the experiment. For the REBT core principles and how they are reflected in the programme, a presentation was given by an REBT expert. At the same time, the coaches expressed the need to have a separate workbook with all the student programme activities, so that they would not have to hand in loose copies every time they had a coaching class. The separate workbook was prepared and sent to the coaches by the doctoral student. Formal contact with the teachers and students at the control school was via e-mail, as they would only need to administer the questionnaires at the pre- and posttest.

Digital questionnaires for all participant groups (teacher and student surveys) were created in www.thesistools.com and sent to all students and teachers involved in the experiment. The Program was implemented by the four coaches of the four classes participating in the experimental group. These four coaches also filled in the evaluation forms for the underachievers in the experimental group. As for the control group, the coaches of the four classes who functioned as control group filled in the evaluation forms for their underachievers. In the data collection phase, the team leaders and the contact persons for both groups, experimental and control, scheduled the measurement moments for students and all the team members. The students filled in the surveys per group at school and at the same time, under the supervision of the coaches during a coaching class. This could be seen on the output of the thesistools system.

The Mentoring Program is divided into five major topics/chapters which are in turn subdivided into smaller topics. Together, they form a compact programme that was implemented in coaching classes throughout the whole school year. Following the instructions in the programme, the coaches were given the freedom to plan and dose the themes themselves, under the condition they had to tackle all major themes in the programme. For each activity, the programme offered teacher instructions and guidelines (See Chapter 4 for details on the programme and Appendix 5 for a sample of mentor instructions and class activities).

For the second experiment, the doctoral student approached the manager of the study course at the University of Applied Sciences and proposed the implementation of the Programme, which was approved. The programme manager randomly chose two groups of first year students from the February intake to participate in the experimental group and two groups in the control group. The experiment started in February 2014, and ended at the end of the first semester, in July 2014.

All the necessary preparations for the implementation of the programme and data collection procedure were made by the doctoral student prior to the first meeting with the students. During the first meeting with the experimental group, they were introduced to the programme, and the first measurement was performed using the Student Self-Report Form. The teachers, who had been asked for their cooperation prior to the beginning of the experiment, were handed the Teacher Form and asked to fill it in for each individual student as objectively as possible. For the control group, the personal coaches of those particular groups were contacted, and asked to invite the students to fill in the Student Self-Report Form. At the same time, other teachers who had regular classes with the students (not the personal coaches) were asked to fill in the Teacher Form for each individual control group student.

The same Mentoring Program used for the experiment at the secondary school was used as coaching instrument, although the implementation differed to some extent. Each major topic was introduced and explained during face-to-face workshops, in small groups of maximum 16 students which favoured discussions and interactions. A selection of activities from the five chapters of the Mentoring Program were used, which were selected according to the needs of each individual student, based on the results of the survey and the student's individual meetings with the coach. For example, if a student mastered organisational skills, but presented fewer emotional resilience attitudes, then, in this case, there was more focus on his/her emotional resilience skills, and the weekly assignments focused on these needs. The materials were spread out over 16 weeks. Regular meetings and feedback sessions with the coach were scheduled with each participant separately, and in some cases more face-to-face and/or online assistance was offered.

5.6 Data analyses

Descriptive statistics, correlations, independent samples *t* tests, effect sizes, Mann-Whitney U test and graphs as data analysis techniques were used to answer the research questions and to test the hypotheses. The analytic methods used are considered valid data analysis techniques for experimental designs (Field, 2009; Goldstein, 2003). For all analyses, a 5% ($p < .05$) one-tailed level of significance was accepted, making use of the SPSS computer software programme. The tests performed in order to answer each research question are described in detail in the paragraphs below.

For the first two research questions concerning the effectiveness of the Mentoring Program on students' in general (RQ1) and, in particular, underachievers' (RQ2) display of the 5Keys, the following sequence of statistical tests were performed.

For the first research question, firstly, descriptive statistics for pre- and -posttest (mean scores and standard deviation scores of the total scale and the subscales (the 5Keys) and effect sizes (Cohen's *d* for the differences between the control and experimental groups at the pretest) were computed and compared between the experimental and control group. Secondly, the pretest-posttest difference scores per total scale and subscales for the experimental and control group were calculated, as well as the effect sizes (Cohen's *d* of the pre-posttest differences). Thirdly, independent samples *t* tests were performed on the pre-posttest difference scores, to test whether differences in the level of change between the experimental and control group were statistically significant. Because directional hypotheses were formulated (applying one-sided tests in the analyses) , and especially because effect sizes were used to interpret the data, no procedure for controlling the probability of false positive results (i.e. the Bonferroni correction) was applied. Fourthly, for more clarity, graphs were included to present the trends in pre- to posttest changes in students' self-assessed display of the 5Keys for both groups.

As for the second research question regarding the effectiveness of the Mentoring Program on underachiever's display of the 5Keys, similar statistical analyses were performed as for research question one. Because of the small sample size the Mann-Whitney U test was applied to observe pre-posttest difference scores between the control and experimental groups. Additionally, in order to observe in more detail the changes in the level of the 5Keys of the underachievers, a detailed comparison between the underachievers' self-assessment and the coaches' assessment of each underachiever was performed at the individual level (N = 20 in total N = 10 for the experimental group and N = 10 for the control group). The goal of this was to investigate whether the students' and teachers' assessments showed similar trends. This analysis was performed using the pre and posttest whole scale mean results for each underachiever, in each

group (experimental and control group), of their self-assessment and the assessment of their coach, as well as the difference between the pre-and posttest scores. Further, the correlation coefficients Pearson's (*r)* were calculated between the coaches' and students' ratings, in order to observe the similarities and dissimilarities in the assessment trends of these two groups.

As for the two research questions concerning the changes in the self-rated student-related teacher stress, similar analyses were conducted as described above, with the exception that instead of using independent *t*-tests, the non-parametric Mann-Whitney U test was applied to compare the pre-posttest difference scores between the teachers in the experimental and control group.

For answering the research question in study 2, similar data analysis methods were applied as in study 1.

Chapter 6 Results

In this chapter, the results of the two experiments are presented, starting with those for the first experiment on secondary school students (Section 6.1), followed by the results for the experiment on college students (Section 6.2).

6.1 Introduction results of the first experiment

In the first experiment, on secondary school pupils, the students' level of display of the 5Keys was measured from their own perspective as well as from the perspective of their coaches (only for underachievers). The measurement instruments were the S*tudent Self-Report Form: My Keys to Success and Happiness* (Bernard, 2005), and *The Evaluating Student´s Foundations for Achievement: Teacher Form* (Bernard, 2005). Both surveys included the same items, but the formulation was adapted to the type of respondent (student versus coach). Additionally, student-related teacher stress was measured using the *Student-Related Teacher Stress* survey. More information about the surveys and the design of the experiments can be found in Chapter 5.

The results are presented as follows: Section 6.1.1 describes the results for the first research question about the effectiveness of the YCDI! Mentoring Program on the level of display of the 5Keys of all students; section 6.1.2 describes the results for the second research question about the effectiveness of the YCDI! Mentoring Program on the level of display of the 5Keys of the underachievers as perceived by themselves as well as by their coaches. Additionally, in this section, a detailed analysis of the underachievers' self-assessments compared with the coaches' assessments of each individual underachiever is included. Section 6.1.3 describes the results for the research questions regarding student-related teacher stress. In Section 6.1.4 the main findings are summarised.

6.1.1 Effects of the Program on all students' self-perceived level of display of the 5Keys

This section will give an answer to the first research question, namely: *What is the effectiveness of the YCDI! Mentoring Program on secondary school students' level of confidence, persistence, organisation, getting along and emotional resilience?* Table 6.1 shows the descriptive results and Table 6.2 the results of the statistical tests.

Table 6. 1. Pre- and posttest mean scores of the subscales of The Student Self-Report: My keys to Success and Happiness.

Group	Total per scale		Confidence		Persistence		Organisation		Getting Along		Emotional Resilience	
	M	**SD**	**M**	**SD**	**M**	**SD**	**M**	**SD**	**M**	**SD**	**M**	**SD**
Measurement One												
Experimental	6.28	0.90	6.22	1.09	6.25	1.09	6.15	1.48	6.69	1.24	6.10	1.31
Control	6.45	1.08	6.56	1.21	6.58	1.44	6.44	1.54	6.70	1.33	5.94	1.26
Measurement Two												
Experimental	6.29	0.68	6.36	0.91	6.41	0.69	6.38	0.94	6.45	0.98	5.84	1.16
Control	6.55	0.97	6.55	0.99	6.55	1.43	6.33	1.67	7.09	1.18	6.25	1.16

Notes: *M* = Mean; *SD* = Standard Deviation.

The comparison of the pretest means of the 5Keys, presented in Table 6.1 above, shows that the experimental and control group rated themselves almost similarly at the beginning of the experiment. The average score for both groups, both on the total scale as per subscale, was between 6 and 7 on the 10 point scale, meaning "sometimes" displaying the 5Keys. The effect sizes (Cohen's *d)* for the pretest differences are small for the 5Keys (.01-.30) as well as for the total scale (.17). Similarly, at the posttest measurement, the students in both groups rated themselves again on each subscale with an average value of ≥ 6. Table 6.2 shows the difference scores (posttest score minus pretest score) for both groups, the effect sizes for these differences and the results of the Independent Samples *t-test* on the pre-posttest difference scores. For the Confidence and Resilience subscales only the pre-posttest difference scores and effect sizes are

reported, and no statistical tests, due to the low reliability of the posttest scores (M2 α = .32 for Confidence, and M2 α = .36 for Emotional Resilience).

Table 6. 2. Pre-posttest difference scores, effect sizes (Cohen's d) and t-test results of the total scale and subscales of The Student Self-Report: My keys to Success and Happiness.

	Difference scores		**Effect sizes (*d*)**		***t*-test**	
Subscales	**Experimental**	**Control**	**Experimental**	**Control**	***t* value**	***p* value**
Confidence	0.13	-0.02	0.14	-0.01	[a]	[a]
Persistence	0.16	-0.04	0.18	-0.02	$t(126.8) = 0.73$	$p = 0.47$
Organisation	0.23	-0.11	0.19	-0.07	$t(133.6) = 0.98$	$p = 0.33$
Getting Along	-0.25	0.39	-0.21	0.31	$t(139.8) = 2.26$	$p = 0.01$*
Emotional Resilience	-0.26	0.31	-0.21	0.26	[a]	[a]
Total scale	**0.01**	**0.11**	**0.01**	**0.10**	$\mathbf{t(138.4) = 0.50}$	$\mathbf{p = 0.62}$

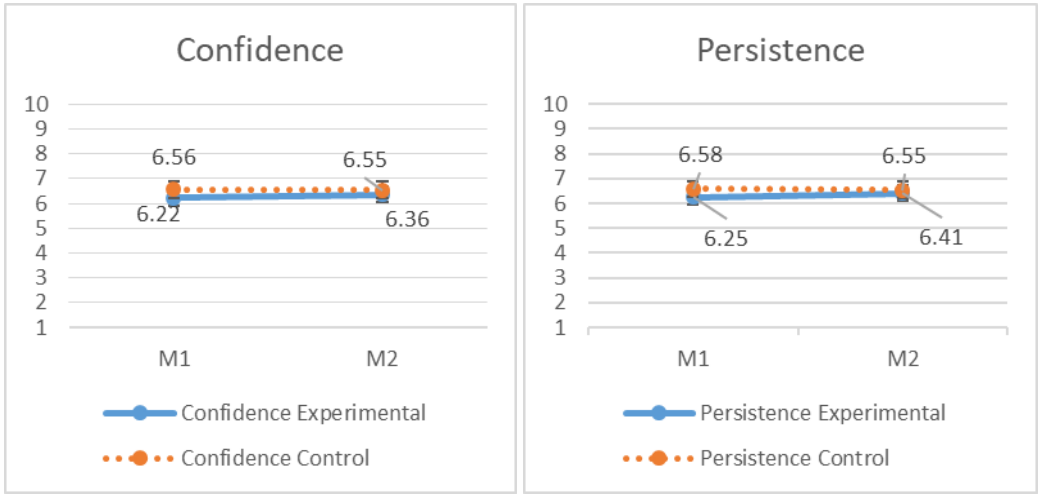
Notes: *t-test* = Independent Samples *t-test* (one-tailed) at a 95% Confidence Interval. *$p \leq 0.05$. [a] not-tested due to the low reliability value.

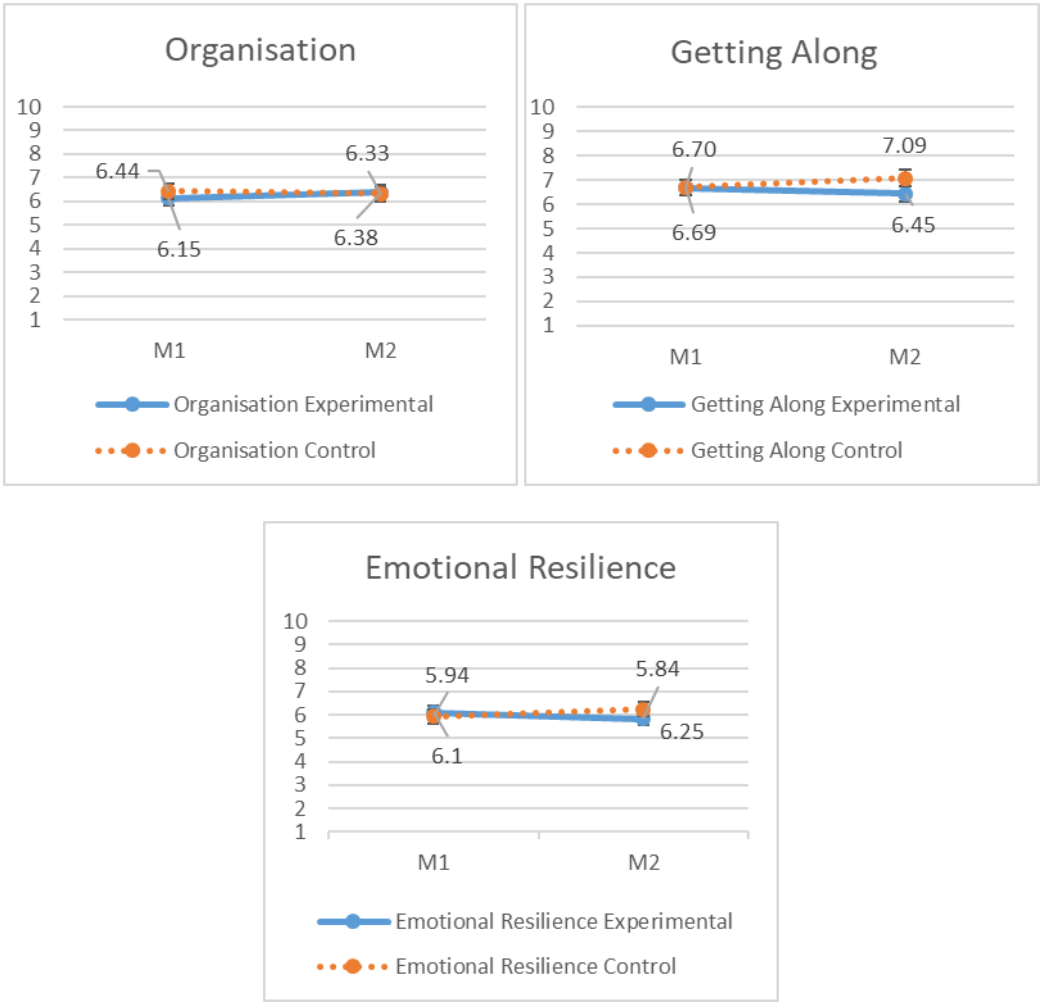
The size of the differences between the average pre- and posttest scores of both groups, indicated by the effect sizes, were small. Comparing the difference between pre- and posttest scores on the total scale shows, on average, no change in the experimental group (ES = 0.01), and a very small increase in the control group (ES = 0.10). As for the subscales, the results show that the students in the experimental group rated themselves somewhat higher at the posttest compared to the pretest ratings for three constructs, namely: Confidence, Persistence, and Organisation. At the same time, for two of the constructs, Getting Along and Emotional Resilience, they rated themselves somewhat lower. In the control group, the self-assessed level of Confidence, Persistence and Organisation remained almost the same. Moreover, we found a small increase in the self-assessed level of Getting Along and Emotional Resilience among the control group.

The results of the *t-tests* showed a significant difference only for the subscale Getting Along, in the advantage of the students in the control group. Considering these findings, the hypothesis for this research question is not supported by the data, implying that that the Program

did not have a positive effect on the level of displaying the 5Keys. This also means that the experimental condition was not more effective than the treatment-as-usual condition.

For more clarity, a visual representation of the pre-posttest changes in the display of the 5Keys of the students in the experimental and control group are presented in the graphs in Figure 6.1 below. As discussed earlier, in the experimental group, for three constructs (Confidence, Persistence, and Organisation) the students rated themselves higher at posttest compared to pretest. Furthermore, for two constructs (Getting Along and Emotional Resilience) they rated themselves lower at posttest. As for the control group, a downward trend is observed in the self-assessed level of Confidence, Persistence and Organisation, and an upward trend in the self-assessed level of Getting Along and Emotional Resilience.





Notes: *M1* = measurement1/Pretest, *M2* = Measurement2/Posttest.

Figure 6. 1. Pre and posttest means for the subscales of The Student Self Report: My Keys to Success and Happiness.

6.1.2 Effects of the Program on underachievers' display of the 5Keys

In this section the results of the statistical analyses for the second research question are described. The research question was: *What is the effectiveness of the YCDI! Mentoring Program on secondary school underachievers' level of confidence, persistence, organisation, getting along and emotional resilience?* To test the hypothesis whether the YCDI! Mentoring Program helps underachievers to improve their use of the 5Keys, 10 underachievers from the experimental

group were compared to 10 underachievers from the control group. The underachievers of both groups were selected by their own coaches, identifying 10 students in each group who, in their view, showed the most maladaptive behaviours and emotions considering their previous observations of the pupils and their academic achievement.

The results presented in this section are based on *The Evaluating Student´s Foundations for Achievement: Teacher Form* and *The Student Self-Report: My keys to Success and Happiness* (Bernard, 2005), thus including both: the coaches' assessment of the underachievers' and the students' self-assessment of the 5Keys. First, the results of the coaches' assessment of the underachievers are presented, followed by the results of the students' self-assessment. Subsequently, the coaches' ratings of the underachievers and the students' self-ratings are compared.

Table 6.3 presents an overview of the pre- and posttest mean scores for the subscales of the Teacher Form, that is, the coaches' assessment of the underachievers.

Table 6. 3. Pre- and posttest mean scores of the subscales of The Evaluating Students' Foundations for Achievement: Teacher Form.

Group	Total per scale		Confidence		Persistence		Organisation		Getting Along		Emotional Resilience	
	M	**SD**	**M**	**SD**	**M**	**SD**	**M**	**SD**	**M**	**SD**	**M**	**SD**
Measurement One												
Experimental	6.25	1.00	5.72	1.01	6.34	1.60	6.44	1.62	6.82	1.15	5.92	1.10
Control	6.41	1.22	5.54	1.24	7.26	1.38	6.62	1.53	6.40	1.42	6.24	1.40
Measurement Two												
Experimental	7.71	0.66	7.38	0.78	7.78	1.07	7.64	0.99	8.16	0.58	7.58	0.75
Control	6.61	1.16	6.38	1.18	7.22	1.43	6.42	1.62	7.24	1.54	5.80	1.60

***Notes**: M* = Mean; *SD* = Standard Deviation.

At pretest, the coaches of both groups rated the underachievers with an average between 5.5 and 7 on the 10 point scale on each of the 5Keys as well as on the total scale. The exception is the rating of the subscale Persistence, on which the underachievers in the control group

received somewhat higher ratings than the underachievers in the experimental group (almost 1 scale point higher). The effect sizes (Cohen's *d)* for the pretest differences for the subscales vary from small for four Keys (.11- .33) to medium for one Key (.62 Persistence) and small (.14) for the total scale. For the posttest, the underachievers in the experimental group received higher ratings than the underachievers in the control group on each of the 5Keys, which means that the students, based on their coaches' views were more confident, persistent, organized, cooperative, and emotional resilient after having been exposed to the Program. The rating on the total scale increased for this group by almost 1,5 point, while the rating for the control group was almost similar as at the pretest.

Table 6.4 shows the pre-posttest difference scores and effect sizes of the overall scale and subscales.

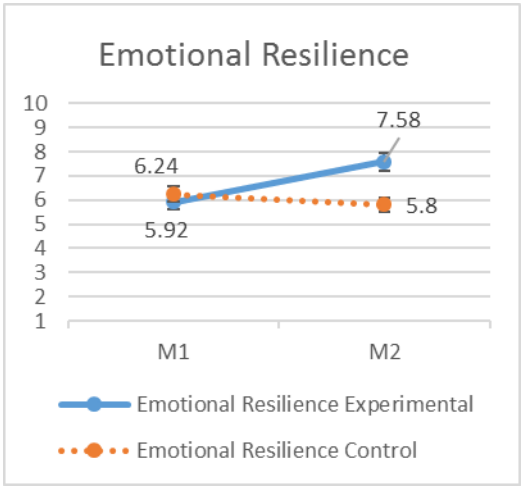
Table 6. 4. Pre-posttest difference scores, effect sizes Cohen's (d), and Mann-Whitney U test of the scale and subscales of The Evaluating Students' Foundations for Achievement: Teacher Form

	Difference scores		**Effect sizes**		**Mann-Whitney U test**
Subscales	**Experimental**	**Control**	**Experimental**	**Control**	
Confidence	1.66	0.84	1.84	0.69	$p = .12$
Persistence	1.44	-0.04	1.06	-0.03	$p = .09$
Organisation	1.20	-0.20	0.89	-0.13	$p = .06$
Getting Along	1.34	0.84	1.47	0.57	$p = .58$
Emotional Resilience	1.66	-0.44	1.76	-0.29	$p = .00$*
Total scale	**1.46**	**0.20**	**1.72**	**0.17**	***p* = .02***

Notes: Mann-Whitney U nonparametric test = Independent Samples (one-tailed) at a 95% Confidence Interval. *$p \leq 0.05$

The pretest to posttest difference scores showed higher values for the experimental group than for the control group. Moreover, on all constructs the pre- posttest trend is positive for the experimental group while only two constructs (Confidence and Getting Along) showed a positive trend for the control group. Furthermore, the effect sizes for the experimental group were found to be large (0.89 - 1.84), while for the control group they were small to moderately large (-0.03 -

0.69). The Mann-Whitney U test, comparing the difference scores between the teacher perceived display of the 5Keys of the underachievers in the experimental and control group, provided an overall significant result (p = .02), indicating that the changes from the pretest to the posttest were statistically different between the two groups. The positive trends in the mean scores from pretest to posttest in the experimental group may also be observed in the graphs in Figure 6.2 below. These graphs clearly show that the coaches of the experimental group gave underachievers higher ratings at the posttest, compared with the pretest, which indicates a positive effect of the intervention.



Notes: *M1*= Measurement1/Pretest, *M2*= Measurement2/Posttest.

Figure 6. 2. Pre-posttest means for the subscales of the Evaluating Students' Foundations for Achievement: Teacher Form.

The results of the self-assessments of the underachievers are presented below. Firstly, Table 6.5 shows the means and standard deviations of the subscales, followed by Table 6.6, which shows the pre-posttest difference scores and effect sizes for the two groups.

Table 6. 5. Pre and posttest mean scores of the subscales of The Student Self-Report: My keys to Success and Happiness.

Group	Total per scale		Confidence		Persistence		Organisation		Getting Along		Emotional Resilience	
	M	**SD**	**M**	**SD**	**M**	**SD**	**M**	**SD**	**M**	**SD**	**M**	**SD**
Measurement One												
Experimental	5.83	1.16	5.54	1.19	5.98	1.20	6.22	1.92	6.42	1.72	4.98	1.02
Control	5.77	0.76	6.04	0.84	5.78	1.41	5.60	0.96	6.02	1.32	5.40	0.69
Measurement Two												
Experimental	6.21	0.63	6.60	0.93	6.16	0.66	6.10	1.38	6.34	0.67	5.86	0.99
Control	6.71	0.99	6.60	1.02	6.88	1.74	6.84	2.12	7.02	1.07	6.22	1.07

Notes: *M* = Mean; *SD* = Standard Deviation.

Comparing the pretest means of the underachievers' self-assessment of the 5Keys, it can be seen that both groups of underachievers rated themselves almost similarly at the beginning of the experiment, with average scores between 5 and 6.5 on the 10 point scale. The differences were around half a point for the Confidence, Organisation and Emotional Resilience subscales.

Furthermore, the underachievers in the experimental group scored higher than the control group on three of the five subscales (Persistence, Organisation and Getting Along), while the reverse was the case for Confidence and Emotional Resilience. The effect sizes (Cohen's *d)* for the pretest differences for the 5Keys were small (.15-.48) and also small (.06) for the total scale. At posttest, the underachievers in the control group rated themselves higher on four of the 5Keys (all except on Confidence, which was exactly the same value) than the underachievers in the experimental group. Table 6.6 shows the pre-posttest difference scores for both groups, and the effect sizes for the overall scale and subscales of the Student Self-Report.

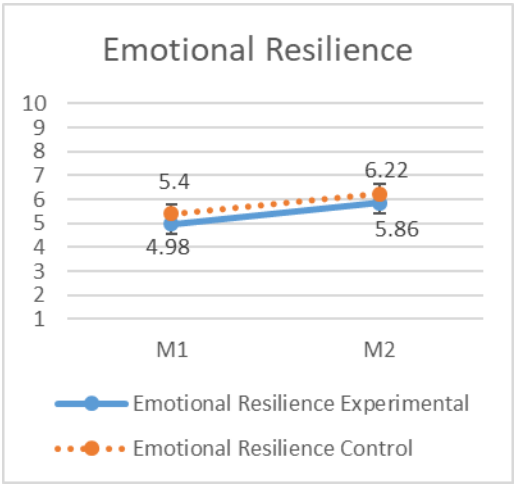
Table 6. 6. Pre-posttest difference scores, effect sizes (Cohen's d) and Mann-Whitney U test of the total scale and subscales of the Student Self-Report: My Keys to Success and Happiness.

	Difference scores		**Effect sizes**		**Mann-Whitney U test**
Subscales	**Experimental**	**Control**	**Experimental**	**Control**	
Confidence	1.06	0.56	0.99	0.60	$p = .44$
Persistence	0.18	1.10	0.19	0.69	$p = .25$
Organisation	-0.12	1.24	-0.07	0.75	$p = .09$
Getting Along	-0.08	1.00	-0.06	0.83	$p = .53$
Emotional Resilience	0.88	0.82	0.88	0.91	$p = .91$
Total scale	**0.38**	**0.94**	**0.41**	**1.07**	$\mathbf{p = .58}$

Notes: Mann-Whitney U nonparametric test = Independent Samples (one-tailed) at a 95% Confidence Interval. $*p \leq 0.05$

The comparison of the pre-posttest difference scores reveals meaningful differences between the experimental and control group. The scores of the underachievers in the control group increased from pre- to posttest on all 5Keys (effect sizes .60 – .91), whereas the underachievers in the experimental group only showed improvement on three out of five subscales (effect sizes .19 – .99). Furthermore, the effect size for the overall scale revealed a medium effect for the experimental group (effect sizes .41), while for the control group it was large (effect size 1.07). The Mann-Whitney U test, comparing the difference scores between the

self-perceived display of the 5Keys of the underachievers in the experimental and control group, provided an insignificant result (p = .58), indicating that the changes from the pretest to the posttest were not statistically different between the two groups. The changes from pretest to posttest for both groups of underachievers are also displayed in the graphs in Figure 6.3.



Notes: *M1*= Measurement1/Pretest, *M2*= Measurement2/Posttest.

Figure 6. 3. Pre- and posttest means for the subscales of The Student Self-Report: My keys to Success and Happiness.

In the following paragraphs the results of the underachievers' assessment in both the experimental as well as the control group will be analysed in more detail by comparing the individual scores of the underachievers on their self-assessment with the scores they received from their coaches. Table 6.7 shows for each underachiever, in each group (experimental and control group) the pre- and posttest score on their self-assessment and the assessment of their coach, as well as the difference between the pre-and posttest scores as computed for both assessments. Only the scores on the total scale are included in the table.

Table 6. 7. Pre and posttest comparison of the individual underachievers based on their self-evaluation and the evaluation of their coach.

		M1	M1	M2	M2	Difference Score Pre-posttest	
	N	**Coach**	**Student**	**Coach**	**Student**	**Coach**	**Student**
	1	4.36	7.42	5.20	8.08	0.84	0.66
	2	5.24	6.12	6.16	6.92	0.92	0.80
	3	5.16	6.00	6.56	7.16	1.40	1.16
	4	6.68	6.92	6.36	4.68	-0.32	-2.24
Control group	5	7.36	5.16	8.04	6.32	0.68	1.16
	6	7.44	5.80	8.12	6.48	0.68	0.68
	7	5.80	4.84	8.32	8.00	2.52	3.52
	8	7.80	6.88	6.08	6.08	-1.72	-0.80
	9	7.76	5.80	6.16	6.36	-1.60	0.56
	10	6.52	5.44	5.12	7.04	-1.40	1.60
Total		**6.41**	**5.77**	**6.61**	**6.71**	**0.20**	**0.94**
	1	6.40	4.08	8.00	6.12	1.60	2.04
	2	6.96	7.12	8.64	6.88	1.68	-0.24
	3	7.00	5.56	7.76	4.84	0.76	-1.08
	4	6.04	5.24	7.64	7.12	1.60	1.88
Experimental	5	6.24	4.08	7.20	6.12	0.96	2.04
Group	6	4.92	6.92	6.84	6.16	1.92	-0.76
	7	6.24	5.16	7.80	6.44	1.56	1.28
	8	5.88	6.76	7.92	5.72	2.04	-1.04
	9	4.68	6.80	6.68	6.44	2.00	-0.36
	10	8.12	6.56	8.60	6.28	0.48	-0.28
Total		**6.25**	**5.83**	**7.71**	**6.21**	**1.46**	**0.38**

Notes: *M1* = measurement1/pretest, *M2* = measurement2/posttest, *Teacher* = teacher assessment, *Student* = student self-assessment.

Table 6.7 shows that, on average, both the coaches and the underachievers reported higher ratings for the use of the 5Keys at posttest compared to pretest, in the experimental as well as in the control group. Looking at the average pre-post difference scores in the experimental group, the table shows that the coaches rated, compared to the underachievers themselves, a higher increase (1.46 versus 0.38). Moreover, the results of the individual pre-posttest difference scores show that all 10 underachievers improved on the 5Keys according to their coaches, while only 4 of the students show an improvement based on their own ratings. The other 6 students rated themselves lower at posttest than at pretest. Regarding the control group, it is interesting to observe that the average pre-posttest difference score is higher when comparing

students' ratings to coaches' ratings (0.94 versus 0.20). Also, these scores show a more consistent pattern between students and coaches (it is higher for the posttest values of the underachievers' self-reports than those reported by the coaches). Also, the individual pre-post difference scores show a more consistent pattern between both groups of raters. For 6 students both groups observed an increase, for 2 a decrease, and only for 2 students the sign of the values is different (negative for coaches versus positive for students).

Given the inconsistency between the coaches' and students' ratings, in particular for the posttest, it is not surprising that also the coach-student correlation coefficients (Pearson's *r*), with values of $r = .29$ and $r = .08$ for respectively pretest and posttest are low. In Chapter 7, these findings will be discussed in further detail.

6.1.3 Results of the self-rated student-related teacher stress

The two research questions formulated regarding the student-related teacher stress were: (RQ 3) *What is the effectiveness of the Mentoring Program on the student-related teacher stress level?*, and (RQ 4) *to what extent can the change in the level of student-related teacher stress be explained by the level of behavioural and emotional change among students in general and underachievers in particular?*

The results of the descriptive statistics of the student-related teacher stress level at the pretest and posttest are presented below. The data were collected via the *Student-Related Teacher Stress* survey. Table 6.8 presents the pre- and posttest mean scores, the standard deviations, the pre-posttest difference scores and the effect sizes.

Table 6. 8. Means, standard deviations, pre-posttest difference scores, and effect sizes (Cohen's d) of the the Student-related teacher stress survey.

Group	M1		M2		Difference scores	Effect sizes *(d)*
	M	**SD**	**M**	**SD**	**M2 – M1**	**M1 to M2**
Experimental	2.15	0.51	1.90	1.01	-0.25	-0.31
Control	2.26	0.54	1.81	0.58	-0.45	-0.80

Notes: *M1,2* = measurement 1, 2, *M* = mean, *SD* = standard deviation.

The results in Table 6.8 show that the values of the pretest scores of the teachers in the control group (*M* = 2.26) and the experimental group *(M* = 2.15) were very close to each other. This means that there were no major differences between the two groups of teachers at the beginning of the experiment, and the average level of the self-reported student-related teacher stress was rather low (around 2 on the 5 point scale meaning "a little stressful") in both groups at pretest.

At posttest, a small decrease (Cohen's *d* = -0.31; *M1* = 2.15, *M2* = 1.90) in student-related teacher stress among the teachers in the experimental group was observed. Remarkably, the teachers in the control group showed a larger reduction of student-related teacher stress (Cohen's *d* = -0.80; *M1* = 2.26, *M2* = 1.81), than the teachers in the experimental group. The Mann-Whitney U test, comparing the difference scores between teachers in the experimental and control group, provided an insignificant result (*p* = .67), indicating that the changes from the pretest to the posttest were not statistically different between the two groups. Thus, it can be concluded that the Program did not appear to have effects on reducing student-related teacher stress.

Following this finding, it did not make sense to analyse whether the changes in the level of student-related teacher stress could be explained by the positive behavioural and emotional changes of the students. Research question four, therefore, could not be answered.

6.1.4 Summary first experiment

The effects of the YCDI! Mentoring Program were analysed by comparing the pre- to posttest changes between the experimental and control group. The first research question focused on students' changes in the self-perceived display of the 5Keys, that is, for students in general. The results showed no positive effects of the Program regarding students' self-perceived display of the 5Keys. This also means that the experimental condition was not more effective than the treatment-as-usual condition. The second research question focused on underachievers' display of the 5Keys, as perceived by the underachievers themselves and as perceived by their coaches. Based on the coaches' perceptions of the underachievers, the underachievers who were exposed to the Program showed higher levels of the 5Keys than the underachievers in the control group. Based on the perceptions of the underachievers themselves, the underachievers in the experimental group showed higher levels for 3 out of the 5Keys at posttest compared to pretest: however, the improvements of the underachievers in the control group were in some cases more substantial than in the experimental group. As for the effects of the Program on the student-related teacher stress level (Research questions 3 and 4), the Program did not have any effect on the reduction of student-related teacher stress. Hence, the outcomes of the first experiment do not support the hypotheses that the YCDI! Mentoring Program may help secondary school students to improve behaviourally and emotionally, and may help reduce student-related teacher stress among teachers in secondary education.

6.2 Results second experiment

6.2.1 Introduction

In the second experiment, college students' display of the 5Keys was measured from two different perspectives: the students' self-assessment and the teachers' assessment of the students. Unlike in the first experiment, it was not the personal coach who observed and assessed the students, but other teachers who were not involved in the experiment.

The results are presented as follows: section 6.2.2 includes the results concerning the students' self-assessment of the level of the 5Keys, followed by the results of the teachers' assessment of the students. Section 6.2.3 includes a detailed analysis of the teachers' assessment of the students compared with the students' self-assessments; and in section 6.2.4 the main conclusions are summarised.

6.2.2 Effects of the Program on students' level of the 5Keys

This section seeks to answer the following research question*: (RQ5) What is the effectiveness of the YCDI! Mentoring Program on college students' level of confidence, persistence, organisation, getting along and emotional resilience?*

The data were collected using the *Student Self-report Form: My Keys to Success and Happiness***,** filled in by the students themselves and *The Evaluating Students' Foundations for Achievement: Teacher Form*. First the results of the students' self-assessment are presented, followed by the results of the teachers' assessment of the students. Table 6.9 shows the descriptive statistics and Table 6.10 the results of the statistical tests.

Table 6. 9. Pre- and posttest mean scores and standard deviations of the total scale and subscales of The Student Self-Report: My keys to Success and Happiness.

Group	Total scale		Confidence		Persistence		Organisation		Getting Along		Emotional Resilience	
	M	**SD**	**M**	**SD**	**M**	**SD**	**M**	**SD**	**M**	**SD**	**M**	**SD**
Measurement One												
Experimental	6.68	0.57	6.34	0.62	6.92	0.98	6.57	1.21	7.16	0.93	6.44	1.24
Control	6.38	0.68	6.05	0.75	6.51	1.07	6.47	1.20	6.64	1.01	6.23	0.87
Measurement Two												
Experimental	8.17	0.54	7.62	0.64	8.15	0.74	8.52	0.59	8.49	0.73	8.05	0.95
Control	6.86	0.69	6.48	0.75	6.87	1.01	6.86	1.23	7.27	1.01	6.83	0.81

Notes: *M* = Mean; *SD* = Standard Deviation.

Table 6.9 shows that, at pretest, the students in both groups rated themselves almost similarly. The effect sizes (Cohen's *d)* for the pretest differences between the control and experimental groups for the 5Keys were small for four keys (.08-.42) and medium for one key (.54 Getting Along), and small (.48) for the total scale. The posttest results show that the students in the experimental group rated themselves higher, compared to the students in the control group where no change was registered. Table 6.10 shows the pre-posttest difference scores for both groups, the effect sizes, and the results of the Independent Samples *t-test*, to evaluate the statistical significance of the differences.

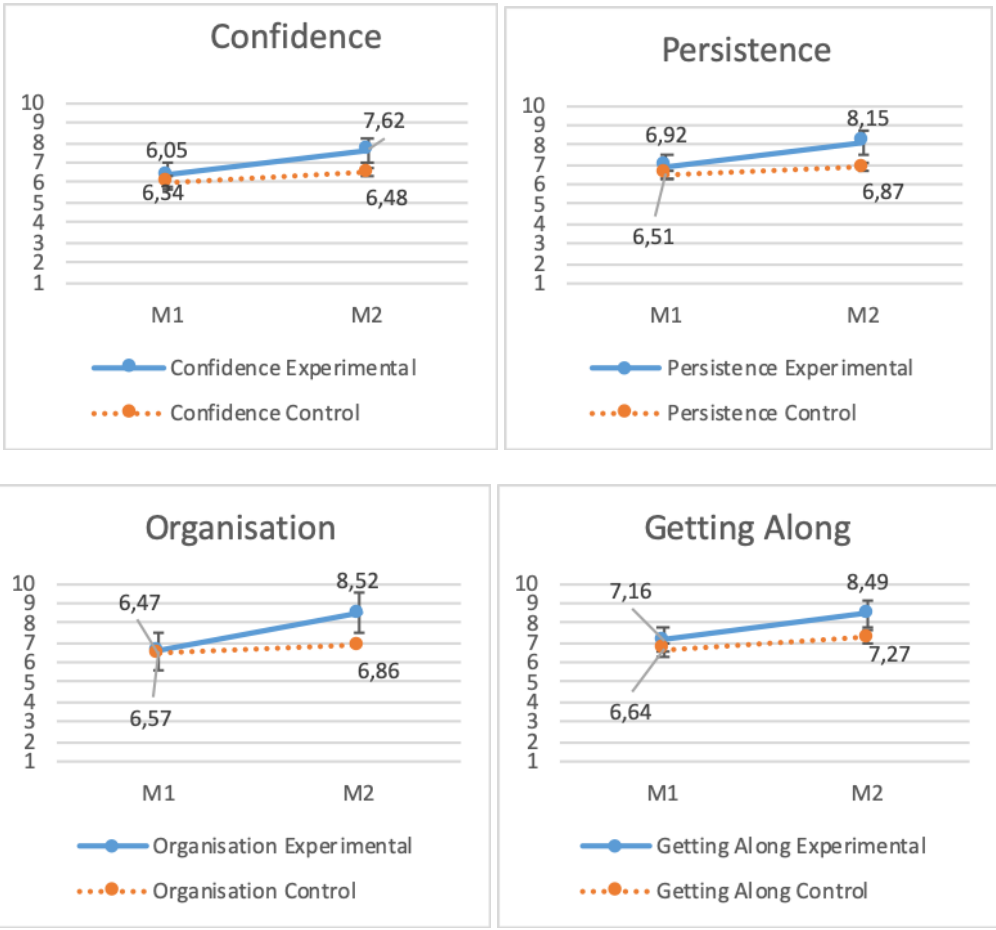
Table 6. 10. Pre-posttest difference scores, effect sizes (Cohen's d) and t-test results of the scale and subscales of The Student Self-Report: My keys to Success and Happiness.

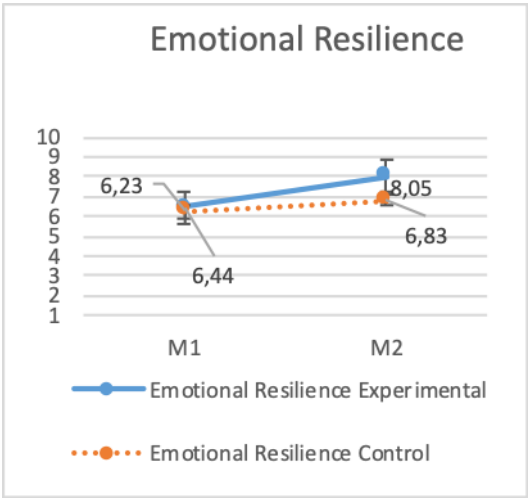
	Difference scores		Effect sizes (*d*)		*t*-test	
Subscales	**Experimental**	**Control**	**Experimental**	**Control**	***t* value**	***p* value**
Confidence	1.28	0.43	2.03	0.57	[a]	[a]
Persistence	1.24	0.36	1.42	0.35	$t(37.6) = 4.798$	$p < .01$*
Organisation	1.95	0.39	2.05	0.32	$t(33.9) = 7.519$	$p < .01$*
Getting Along	1.33	0.63	1.59	0.62	$t(38.0) = 3.786$	$p < .01$*
Emotional Resilience	1.61	0.60	1.46	0.71	$t(46.5) = 6.072$	$p < .01$*
Total scale	**1.48**	**0.48**	**2.68**	**0.70**	$\boldsymbol{t(36.1) = 8.849}$	$\boldsymbol{p < .01}$*

Notes: *t-test* = Independent Samples *t-test* (one-tailed) at a 95% Confidence Interval. *$p \leq 0.05$. [a] not-tested due to the low reliability value.

The difference on the total scale between the pre- and posttest scores was large (1.48) for the experimental group and small (0.48) for the control group. The difference in change between the experimental group and control group was significant ($p < .01$). Also, the students in the experimental group improved more on all 5Keys between pre- and posttest than the control group. This difference was significant for Persistence, Organisation, Getting Along and Emotional Resilience (note that for Confidence, no statistical tests could be conducted).

The graphical representation of the changes in the 5Keys can be observed in the graphs of Figure 6.4 below. Based on the findings presented above, the hypothesis that students may improve their self-perception and display of the 5Keys when exposed to the YCDI! Mentoring Program can be confirmed.





Notes: *M1*= Measurement 1/Pretest, *M2*= Measurement 2/Posttest.
Figure 6. 4. Pre and posttest means for the subscales of The Student Self-Report: My keys to Success and Happiness.

Below, the results of the statistical analyses for the research question, with a focus on the teacher assessment of the students will be presented. Firstly, Table 6.11 includes an overview of the pre- and posttest mean scores on the total scale and subscales. Next, Table 6.12 presents the pre-posttest difference scores, effect sizes and results of the *t* test for the total scale and subscales of the *Teacher Form*. Lastly, Figure 6.6 presents the graphical representations of the pre-posttest changes in the display of the students' 5Keys, as rated by the teachers.

Table 6. 11. Pre and posttest mean scores of the scale and subscales of The Evaluating Students' Foundations for Achievement: Teacher Form.

Group	Total per scale		Confidence		Persistence		Organisation		Getting Along		Emotional Resilience	
	M	**SD**	**M**	**SD**	**M**	**SD**	**M**	**SD**	**M**	**SD**	**M**	**SD**
Measurement One												
Experimental	6.78	0.86	6.15	1.07	7.04	0.95	7.15	1.00	7.05	1.31	6.48	0.90
Control	7.37	0.60	6.87	0.91	7.30	0.73	7.52	1.04	7.74	1.02	7.44	0.71
Measurement Two												
Experimental	8.21	0.51	7.84	0.79	8.31	0.59	8.28	0.71	8.54	0.48	8.15	0.62
Control	7.66	0.59	7.25	0.80	7.63	0.67	7.85	1.04	7.91	1.09	7.67	0.69

Notes: M = *Mean;* SD = *Standard Deviation.*

Comparing the pretest means of the 5Keys in Table 6.11, it can be observed that the students were rated differently in the two groups. The control group was rated somewhat higher on the total scale and each of the 5Keys, compared to the ratings given to the experimental group. It means that, at the pretest, the students in the control group were observed to show an overall higher display of the 5Keys compared with the students in the experimental group. This difference is shown by the effect sizes (Cohen's *d)* for the pretest differences, which varied from small (.31 Persistence and .36 Organisation) to medium (.72 Confidence and .59 Getting Along) and large (1.18 Emotional Resilience) for the 5Keys and large (.80) for the total scale. After the implementation of the Program, the teachers rated the students in the experimental group higher on the total scale and the five subscales than at pretest, while for the control group the ratings remained almost the same as at pretest.

Table 6.12 shows the pre-posttest difference scores, effect sizes and results of the *t*-tests of the total scale and subscales of the *Teacher Form*.

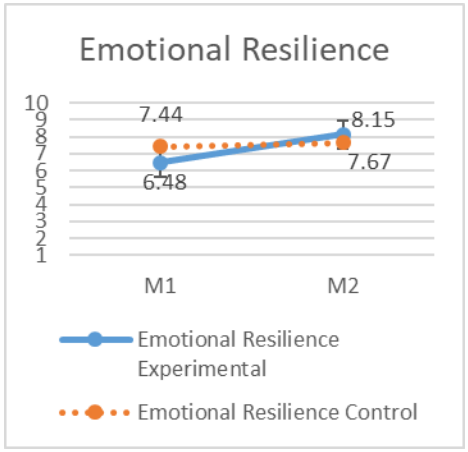
Table 6. 12. Pre-posttest difference scores, effect sizes (Cohen's d) and t-test results of the scale and subscales of The Evaluating Students' Foundations for Achievement: Teacher Form.

	Difference scores		**Effect sizes (*d*)**		***t*-test**	
Subscales	**Experimental**	**Control**	**Experimental**	**Control**	***t* value**	***p* value**
Confidence	1.68	0.37	1.80	0.44	*t(38)* = 7.744	$p < .01$*
Persistence	1.27	0.34	1.61	0.47	*t(47.5)* = 5.630	$p < .01$*
Organisation	1.13	0.33	1.30	0.32	*t(49.5)* = 5.338	$p < .01$*
Getting Along	1.50	0.17	1.51	0.16	*t(42.8)* = 5.850	$p < .01$*
Emotional Resilience	1.66	0.23	2.16	0.33	*t(46.1)* = 8.344	$p < .01$*
Total scale	**1.45**	**0.29**	**2.02**	**0.49**	***t(39.9)* = 8.984**	***p* < .01***

***Notes**: t-test* = Independent Samples *t-test* (one-tailed) at a 95% Confidence Interval. *$p \leq 0.05$.

The Independent Samples *t-test* showed statistically significant pre-posttest differences between the experimental and control group for both the total scale as well for all of the subscales ($p < .01$, one-tailed). Furthermore, all of the effect sizes for the pre-posttest difference

scores in the experimental group were found to be large, while they were small for the control group. The positive changes in the mean scores pre-posttest can also be observed in the graphs in Figure 6.5. Altogether, the results based on the teachers' assessments indicate that the intervention had a positive effect on students' display of the 5Keys, and support the hypothesis that the YCDI! Mentoring Program helped students improve their 5Keys.



Notes: *M1* = Measurement 1/Pretest, *M2* = Measurement 2/Posttest.

Figure 6. 5. Pre and posttest means for the subscales of The Evaluating Students' Foundations for Achievement: Teacher Form.

6.2.3 Teacher assessment versus student assessment

In order to observe the effects of the intervention in more detail, a pre-posttest comparison between the college students' self-assessment and teachers' assessments of the students was performed (*N*= 62 students in total, 31 students for the experimental group (2 groups of 15-16 students per group), and 31 students for the control group (2 groups of 15-16 students per group). Each student was assessed twice by the same teacher (*N* = 4 teachers, 2 for the experimental group and 2 for the control group), once for the pretest and once for posttest. The main purpose of this comparison was to observe the similarities and dissimilarities in the assessment trends of the two groups of assessors. For this analysis, the pretest and posttest mean scores and the difference scores of the total scale per group of assessors were used, as presented in Table 6.13 below. Unlike the teacher-student assessment comparison presented for the underachievers in the first experiment, where the results of each individual student were also presented, for the experiment on college students, only the values per group are presented here.

Table 6. 13. Pre and posttest comparison of the teachers' evaluations of the students and students' self-evaluations based on the group mean and teacher-student correlation (Pearson's r).

Total scale score per group

	Teacher	Student	Teacher	Student	Teacher	Student	Teacher – student Pearson's *r*	
	M1	M1	M2	M2	Difference Scores		M1	M2
Control	7.37	6.38	7.66	6.86	0.29	0.48	r(29) =.54, p < .01*	r(29) =.42, p = .02*
Experimental	6.78	6.68	8.22	8.17	1.45	1.49	r(29) =.12, p = .51	r(29) =.01, p = .94

Notes: *M1* = measurement1/pretest, *M2* = measurement2/posttest, *Teacher* = teacher assessment, *Student* = student self-assessment, *$p \leq 0.05$ (two-tailed).

In the experimental group, both the ratings of the teachers as well as the students themselves were higher at the posttest, compared to the pretest ratings. Moreover, the value of the difference scores based on the teachers' ratings was almost similar to the one based on the students' ratings. As for the control group, the teachers rated the students slightly more positively at the posttest compared to the pretest, whereas the students themselves filled out the same level of displaying the 5Keys on both occasions.

Additionally, teacher-student correlation coefficients (Pearson's *r*) for the pretest and posttest for both groups were calculated. For the experimental group, both for pretest and posttest, a low correlation was found (M1 r =.12 p = .51; M2 r =.01, p = .94) between students' self-assessment ratings and teachers' assessment of the students ratings. As for the control group, the teacher-student correlation was moderate for pretest as well as for posttest (M1 r =.54, p < .01; M2 r(29) =.42, p = .02). These low to moderate values indicate that the teachers' assessments were quite different than the students' self-assessments, especially for the experimental group. These findings will be further discussed in Chapter 7.

6.2.4 Summary second experiment

The research question of the second experiment (RQ 5) focused on the effects of the YCDI! Mentoring Program on college students' changes in the level of display of the 5Keys. Based on the perceptions of the students themselves, as well as their teachers, the students who were exposed to the Mentoring Program showed higher levels of positive change than the students in the control group. These positive effects support the hypothesis that the YCDI! Mentoring Program helps college students to improve behaviourally and emotionally.

Chapter 7 Conclusions and discussion

7.1 Introduction

In this chapter, the main findings of the two empirical studies will be summarised, followed by the conclusions about the contribution of the studies for theory and practice and suggestions for future research. The chapter is structured as follows: section 7.1 presents an overview of the research background, the main goals of the research studies, and the research methodology of the two experiments. Next, in section 7.2, the research findings of both experiments per research question are summarised, followed by a discussion of the findings in section 7.3 and the strengths of the studies in section 7.4. The chapter concludes with section 7.5 about the limitations of the studies and suggestions for further research.

7.1.1 Research background

The first goal of the studies was to evaluate the effectiveness of the social-emotional learning programme You Can Do It! (YCDI) Mentoring Program (Bernard, 2005), part of the YCDI! Education curricula (See Chapter 4 Section 4.2 for a complete overview of the curricula). Michael Bernard (2005), who developed the Mentoring Program claims that the programme may help those children and young people who are achieving less than their potential, also called underachievers. More precisely, Bernard claims that teaching underachievers to become more persistent, confident, organised, emotionally resilient, and how to get along may help them perform better at school and improve their well-being in general. The latest studies regarding the effects of different YCDI! Education programmes (Ashdown & Bernard, 2012; Bernard, 2008a, 2008b, 2017; Bernard & Anglim, 2012; Bernard & Walton, 2011; Daniela & Bernard, 2011; Markopoulos & Bernard, 2015; Yamamoto, Matsumoto, & Bernard, 2017) all point to an

increase in school achievement and social resilience of the children who participated in an YCDI! Education programme.

Most of the published studies reporting on the implementation of different mentoring programmes of the YCDI! Education curricula were performed on students in primary education. As for the YCDI! Mentoring Program, surprisingly, there is only one unpublished Master Thesis study (Brown, 1999) that reported on an experiment that evaluated its effects on students 13-14 years of age. This lack of empirical evidence on the effectiveness of the Mentoring Program, especially in secondary and tertiary education, was a strong motive to choose to evaluate it. Furthermore, in this research project, the effectiveness of the YCDI! Mentoring Program was investigated in the Dutch school context for the first time using a pre-posttest design with an experimental and control group. The choice to implement the Mentoring Program on two target groups emerged primarily from the very instructions of the programme. Bernard (2005) suggested that the method is suitable to coach young people between 12 and 18+ of age. Therefore, two intervention studies were performed, one among secondary school students and one among college students.

Besides the evaluation of the effectiveness of the YCDI! Mentoring Program on students, a second aim of the Ph.D. project was to explore its effect on student-related teacher stress. The assumption was that by improving students' emotional and behavioural functioning, the level of student-related teacher stress would also decrease, because students' malfunctioning is frequently mentioned in the literature as a main source of stress for teachers (Bernard, 1990; DUO 2012; ETUCE 2012; Rogers, 2004, 2012). This assumption was explored only in the intervention study among secondary school teachers due to the fact that the literature (DUO, 2011, 2012, 2017; ETUCE 2012; Smulders, Bossche & Hupkens, 2007) suggests that secondary

school teachers experience more student-related teacher stress compared to teachers in primary and tertiary education.

In the first study, conducted among secondary school students and teachers, the focus was on the effectiveness of the Program on both students' maladaptive behaviours and emotions as well as on student-related teacher stress. Regarding students' maladaptive behaviours and emotions the two research questions were: (RQ 1) *What is the effectiveness of the YCDI! Mentoring Program on secondary school students' level of confidence, persistence, organisation, getting along and emotional resilience?, and (RQ 2) What is the effectiveness of the YCDI! Mentoring Program on secondary school underachievers' level of confidence, persistence, organisation, getting along and emotional resilience?*

The two research questions regarding student-related teacher stress were formulated: (RQ 3) *What is the effectiveness of the Mentoring Program on the student-related teacher stress level?*, and (RQ 4) *To what extent can the change in the level of student-related teacher stress be explained by the level of behavioural and emotional change among students in general and underachievers in particular?*

In the second experiment, involving college students, the intervention was only aimed at students. The research question was: (RQ 5) *What is the effectiveness of the YCDI! Mentoring Program on college students' level of confidence, persistence, organisation, getting along and emotional resilience?*

The YCDI! Mentoring Program (Bernard, 2005) is a rational-social-emotional-cognitive-behavioural programme structured into five main topics/chapters, because there are five social-emotional skills, as Bernard (2005) describes them: confidence, persistence, organisation, getting along and emotional resilience (the 5Keys). In turn, these five main topics contain

different smaller sub-topics/lessons that can be tackled during the mentoring/coaching sessions. Each mentoring topic of the Mentoring Program is structured into three parts. The first part is the REE background for the teacher/coach, with the basic classroom resources, which are useful for the teacher to prepare before the session. The second part contains the actual lessons/activities, which deal with the targeted rational-emotive and behavioural concepts meant to be taught and discussed with the young person(s) during the mentoring sessions. The third part contains special activities, in the form of weekly assignments, meant to make students practise those techniques in their own life beyond the school environment. After each week, the student reports on the specific weekly assignments, and he or she receives feedback from the coach. An example of a mentoring session from the programme can be found in Appendix 5.

7.1.2 Research method

In both intervention studies, an experimental pre-posttest control group design with an experimental and a control group was used. The first experiment, focusing on secondary school pupils and their teachers, lasted for one school year, while the second experiment focusing on college February starters, lasted for six months. Both experiments used the YCDI! Mentoring Program (Bernard, 2005) as intervention in the experimental groups and a treatment-as-usual in the control group.

A secondary school in the North of the Netherlands accepted to implement the YCDI! Mentoring Program. The secondary school manager assessed the YCDI! Program and concluded it could assist the pupils and (implicitly) the mentors in their mentoring process. Being a school with two locations in two different parts of the province, one location was chosen by the manager of the school to act as control group and one location as experimental group. The total

number of student participants was 144 (N= 72 in the experimental group, and N= 72 in the control group). In the experiment 18 teachers participated in total (N = 9 in both of the experimental and control group), representing all teachers who gave regular classes to the participating students. The students in the experimental group (four classes) received weekly, whole class mentoring sessions during the school year 2013-2014. These sessions were given by the class coaches, who had previously been trained in using the programme by the doctoral student and another mental health practitioner.

The experiment on college students was conducted in a college, a University of Applied Sciences in the North of the Netherlands. The programme manager hoped that by implementing the Program among February starters, they might acquire the necessary tools in order to become successful in their study programme. Therefore, the manager selected four mentoring groups of February starters to participate in the study, and assigned two of these groups to the experimental group and two to the control group. 31 February starters received the YCDI! Mentoring Program during their Personal Development Programme classes, during a whole semester, 16 weeks, in the academic year 2014-2015. The control group also consisted of 31 students, from the same study course and academy. The mentoring sessions were given by the doctoral student who had been trained in using social-emotional coaching techniques and had previously studied psychology. The coaching strategy consisted of a combination of face-to-face coaching meetings with the whole mentoring group, regular individual structured meetings with the coach, and online student-coach contact and feedback.

For the assessment of the effectiveness of the YCDI! Mentoring Program in both experiments, the data were gathered twice (pre- and posttest), representing two distinct perceptions: the student's self-perception and the coaches'/teachers' perception on students. In

the secondary school study, the very coaches who implemented the programme assessed the underachievers, and the secondary school pupils assessed themselves. In the study among college students, other teachers than the coach who had regular classes with the students, assessed all students. Additionally, all college students conducted self-evaluations. In both studies, the *Student Self-report Form: My Keys to Success and Happiness* was used for the self-evaluation, while for the teacher evaluation of the students, *The Evaluating Student´s Foundations for achievement: Teacher Form* (Bernard, 2005) was used. Both forms included the same items, but from two perspectives: the students' and the coaches'/teachers'. For the assessment of the student-related teacher stress, which was measured only in the secondary school study, the *Student-Related Teacher Stress* survey was used (See Appendix 6 for the measurement instruments).

7.2 Summary of the research findings

The summary of the research findings presented in this section is based on the results of the statistical analysis presented in Chapter 6. Because there were two experimental studies and different measurements, the information will be presented per study, and per research question. As mentioned before, the analysis presents the evaluation of the students from two angles: the students' self-perception and the teachers' perceptions about the students.

In the first study, the first research question addressed the effect of the YCDI! Mentoring Program on students' level of confidence, persistence, organisation, getting along and emotional resilience (the 5Keys). After comparing the pre- to posttest changes between the experimental and control group no positive effects of the Program regarding students' self-perceived display of the 5Keys were found. This means that the experimental condition was not more effective

than the treatment-as-usual condition. The second research question focused on underachievers' display of the 5Keys, as perceived by the underachievers themselves and as perceived by their coaches. Based on the coaches' perceptions of the underachievers, the underachievers who were exposed to the Program showed higher levels of pre- to posttest change on the 5Keys than the underachievers in the control group. However, based on the perceptions of the underachievers themselves, there was no difference in the level of displaying the 5Keys at the pre- and posttest , neither in the experimental group nor in the control group. Taken all the findings together, the outcomes of the first study do not support the hypotheses that the YCDI! Mentoring Program may help secondary school students to improve their behavioural and emotional functioning.

Regarding the change in the student-related teacher stress level as a result of the teachers' exposure to the Program, the findings showed that the Program did not have any effect on the reduction of student-related teacher stress. Hence, the findings do not support the hypothesis that the YCDI! Mentoring Program may help reduce student-related teacher stress as suggested by Bernard (1990) and Rogers (2004, 2012).

In the second study, the research question addressed the effect of the YCDI! Mentoring Program (Bernard, 2005) on the February Starters' 5Keys. Based on the perceptions of the college students themselves as well as their teachers' perceptions, the students who were exposed to the Mentoring Program showed higher levels of positive change than the students in the control group. These positive effects support the hypothesis that the YCDI! Mentoring Program may help students to improve their level of behavioural and emotional functioning.

All in all, it can be concluded that the YCDI! Mentoring Program (Bernard, 2005) has stimulated the secondary school underachievers of the experimental group to change in a positive way, as it was perceived by their coaches, on the one hand. On the other hand, when observing

the effect of the Program on the overall student group as well as on the underachievers, based on the students' self-perceptions, no positive effects were found. As for the second experiment on college students, it can be concluded that the YCDI! Mentoring Program (Bernard, 2005) had a positive effect on the February Starters college students' level of display of the 5Keys, as assessed by themselves as well as by their teachers.

7.3 Discussion of the findings

In the paragraphs below, the findings of both studies will be discussed. The discussion will focus on measurements, both the students' self-reported use of the 5Keys and the coaches' assessment of the underachievers'/students' display of the 5Keys; the implementation of the intervention; the composition of the research sample; other factors that might have influenced the results; and certain aspects concerning the findings regarding student-related teacher stress.

Firstly, as the statistical analysis of the self-assessment data of the secondary school students shows, the students in the experimental group, taken as a whole group, achievers and underachievers together, reported similar levels of display of the 5Keys at pre- and posttest, after one year of exposure to the YCDI! Mentoring Program (Bernard, 2005), as the students in the control group did. It could be the case that the Mentoring Program did not yield any positive effects. However, another explanation could be that the students were not aware of their increased use of the 5Keys. This explanation is also grounded in Bandura's (1977, 2012) *self-efficacy* theory, and applying it to this experiment, it can be the case that the students did not re-actualise their *self-belief* and *self-image*. Another explanation could be that not all students needed to learn the skills the programme offered, since they already possessed them. It is important to note here that the values of the self-rated usage of the 5Keys, as reported by students, could not be compared with the coaches' evaluation of the students directly, because

not all the students were assessed by the coaches, only the underachievers, who had been previously identified as underachievers by their coaches. A more objective measurement of students' display of the 5Keys at the pretest, for example, by conducting behavioural observations, was unfortunately not possible in this project.

Secondly, the coaches' observations of the underachievers indicated higher posttest values for the underachievers compared to the pretest values, but the posttest values were somewhat lower than expected when compared to Brown's (1999) study and other studies presented in Chapter 4. An explanation for this could be that the YCDI! Program was facilitated in small groups and individual sessions in those studies, whereas for this study, a whole-class approach was used in the secondary school experiment. Because this approach was used, unfortunately, there was no room for closer individual contact and feedback moments with the underachievers. Not having regular individual meetings with the coach, in order to discuss their progress, might have left students without the necessary feedback and reinforcement on their performance, which could have had a negative influence on their self-image. Bernard (2005) recommends having regular individual meetings with the coach, so that the students receive *specific feedback,* for this is the very moment that students can discuss the improvements and setbacks they are experiencing. From the perspective of Bandura's (1977, 2012) *self-efficacy* theory, deeply imbedded in the YCDI! Mentoring Program, the *self-belief* in performing and underperforming, in staying motivated and/or becoming demotivated, and being aware of, and regulating one's own *self-belief* is of paramount importance. Bandura explains that people with strong self-beliefs know how to motivate themselves and stay persistent, while persons with poor self-beliefs tend to underestimate their own capabilities, and due to that, those persons tend to be less motivated and less persistent. Ultimately, it is also possible that the coaches rated the

underachievers in the experimental group higher at posttest because they selected the underachievers and they knew who participated in the experimental and control groups. Therefore, it might have been possible that they purposefully rated the underachievers in the experimental group higher at posttest to show positive results.

The statistical results for the second experiment, on the February starters college students, showed positive changes in all 5Keys targeted by the experiment. After having compared the students' and teachers' ratings in the experimental and control group, significant changes were observed between the pretest and posttest measurements. The findings reveal that the overall effect of the intervention, considering the student self-perceptions of the 5Keys and teachers' evaluations of the students' display of the 5Keys, was statistically significant and positive. These results are in accordance with the results presented by Brown (1999), and also in accordance with the results of other studies on the YCDI! Education framework, as presented in Chapter 4 (Ashdown & Bernard, 2012; Bernard, 1995, 2004, 2008, 2012, 2017; Bernard & Anglim 2012; Bernard & Walton, 2011; Brooks, 1999; Buddecke, 2002; Campbell, 1999; Daniela & Bernard, 2011; Day, 1998; Eddy, 2000; Hudson, 1993; Markopoulos & Bernard, 2015; Pina, 1996; Yamamoto, Matsumoto & Bernard, 2017).

An important factor that might have influenced the results in a positive way was the very design: a form of face-to-face meetings, completed with online coaching, in which the students had 24/7 access to their coach. It is also possible that because of this close relationship between the coach and mentees, the students purposefully rated themselves higher at posttest just to be kind and show positive results. The students felt assisted and helped, and that fact may have increased their self-confidence, and as a consequence their motivation and participation. Despite all that, it did not guarantee their retention in the study programme. For example, there was one

particular student, who declared before she left, that it was because of the coach that she could stay in the study programme so long, but she could not cope with the demands and pressure of the study programme any longer, and she decided to leave for another university. Thus, in the case of certain students, the positive results may also lie in the supportive influence of the coach. This aspect is also highlighted and recommended in the guidelines of the programme itself (Bernard, 2005).

Thirdly, it is important to mention that, in the secondary school experiment, the number of underachievers identified by the coaches of both groups was ten, representing 14% of the students (N=10 for the experimental group and N=10 for the control group). This fact validates the claims stated in multiple studies presented in Chapter 2 which argue that about 15% to 20% of secondary school pupils exhibit visible emotional and behavioural issues. At the same time, these studies claim that in reality the number of students with behavioural and emotional issues is much higher, sometimes up to 30-40%, but because they do not cause "problems" they are unseen by their teachers and educators (Pathak, Sharma, Parvan, Gupta, Ojha, & Goel, 2011). It means that there may have been more students with behavioural and emotional problems in the student samples than the coaches had indicated. This aspect will be discussed in more detail in the section dedicated to limitations of the study.

As for the second experiment, all college students in the experimental groups were selected to participate in the experiment. The experiment was started based on the assumption that all February starters are always in a weaker position, due to the beginning date of their study. They seem to need more help in order to stay on track compared to those beginning in September. The results of the students' self-reports show that the drop-out rate cannot be fully explained by the lack (or not) of the 5Keys, but its cause presumably lies somewhere else. In the

case of the February starters, not offering them an organised study programme from the beginning to the end, the same as what September students are offered, seems to lead them to become demotivated and overwhelmed by the high requirements of the study programme, and ultimately they leave the study programme. This was also observed in this study. Comparing the two groups, from the 31 students of the experimental group who initially participated in the study, only 13 made it to their third year of their study, while in the control group, 15 out of the original 31 were still in the programme in their third year of studies. The positive outcomes of the experiment might have also emerged due to other factors that generated change during the experiment, and which were not measured in this study. Some of these factors could be the already existing high motivation in some students, and the demands of the study programme that push students to acquire knowledge at a higher pace.

Finally, in the secondary school experiment, the student-related teacher stress showed no change from pre- to posttest. As discussed in Chapter 2, it is not necessarily the trigger, in our case the misbehaviour of the students that causes stress/disturbance of the teacher, but merely the mental attitude of the teacher who decides to consider the trigger/misbehaviour as stressful or not (Ellis & Bernard, 2006). Bernard (1990) and Rogers (2004, 2012) also suggest that it is the teachers' own system of thinking, processing and coping with the stressful trigger/misbehaviour that transforms it into a stressful one or not. Analysing these arguments from this perspective, it can also be concluded that the teachers of both groups possessed the necessary coping student-related stress skills, and that was probably one of the reasons they did not rate their student-related stress as high.

7.4 The strengths of the studies

First of all, this thesis adds value to the empirical evidence for the theory of YCDI! Education. There is currently more evidence of the effectivity of the Mentoring Program as an instrument for coaching young people. Furthermore, the studies described in this thesis contribute to the practice of mentoring by providing new insights into the effectiveness of the YCDI! Mentoring Program on improving students' display of the 5Keys.

In this project, the YCDI! Mentoring Program was introduced and tested in an experimental setting for educational purposes here in the Netherlands, for the first time, and for the second time worldwide after Brown's unpublished Master's thesis in 1999. Because of this pioneer endeavour, it was decided to implement it on a small scale, but still on a larger sample than Brown's (1999), who used a sample of 36 students subdivided into a control and experimental group. A pretest-posttest control group design was used, and the effectiveness of the YCDI! Mentoring Program was assessed in two different samples: secondary school pupils and college students. The results of this Ph.D. study partly revalidate the YCDI! Education theory according to which the YCDI! Education framework can be applied to stimulate students to improve their display and mastery of the 5Keys.

A strong point of the measurement tools was that both the teacher surveys and the student surveys used the same items, thus evaluating students' display of the 5Keys with a similar focus, though from two different perspectives: the student's and the teacher's. This enabled us to see the similarities and dissimilarities in students' and teachers' observations regarding students' display of the 5Keys, rather than using one perspective. Furthermore, the items used in the teacher and student self-assessment surveys, which test the 5Keys, are the very topics tackled by the Mentoring Program. In their turn, the topics tackled in the Program are strongly connected to

the different psychological and educational theories as they have been adopted by Bernard into the Mentoring Program (See Chapter 4, Section 4.2 for a detailed overview of the theories that laid the foundation for the development of the programme). This means that there is a strong alignment between the theories the Program is grounded in, the content of the Program itself and the measurement instruments that can be used to evaluate the effects of the Program.

In the case of the second experiment, the use of online channels and social-emotional approaches in coaching students at the higher education institute where the study was conducted was revolutionary. Traditional coaching at the participating higher education institute involves face-to-face meetings between the coach and mentee. During this intervention, the facilitation of the YCDI! Mentoring Program's coaching materials, feedback and assistance, were offered to the students via online channels, too. The intensive coaching method gave promising results, and this was probably the reason why the students' self-assessment ratings were so high at the posttest, but it was very exhausting for the coach. The students reported during their regular meetings with their coach that they felt they were assisted and helped, and it made them feel they had a person they could turn to, when in need. The feedback from the college students during the final evaluation of the study was generally positive. Most of the students appreciated the topics presented in the Program, and they agreed that the topics had applicability to their school and real life settings (See Appendix 7 for students' feedback on the Program). Although the intervention resulted in positive results for those students, further replications of the experiment, conducted with and without using online channels, are necessary in order to determine: (a) the effectiveness of and robustness of the effectiveness of the Mentoring Program on larger groups of tertiary education students, and (b) the additional effect of the online availability of the coach in these types of interventions.

7.5 Limitations of the studies and recommendations for further research

The studies are not without limitations. According to the literature a study's quality of results is directly correlated with the quality of the intervention, which involves methods, content and intensity (Kelly, Lesh, & Baek, 2014; Shadish, Cook, & Campbell, 2002; Van der Werf et al., 2000). A number of issues in this Ph.D. project need further attention. If addressed, they will advance our understanding of mentoring students effectively. Because of time and resource limitations, we were not able to address these issues in this study. Therefore, in this section, these issues are presented and discussed, and also how they can be addressed in future research.

As presented in Chapter 4, the only known study about the evaluation of the YCDI! Mentoring Program is Brown's (1999) unpublished Master Thesis, who experimented with it on secondary school students in the US (13-14 years). Moreover, up to the present, there has been no record of any implementation of the Mentoring Program in tertiary education, and it was the first time that it was implemented in the Netherlands. Thus, little information was available from previous studies regarding important factors that could influence the implementation and effects of the programme in secondary as well as tertiary education. Therefore, the results cannot be generalised to the population of secondary and tertiary school students in the Netherlands, nor in other countries. This observation leads to the following recommendations:

Recommendation 1: *Further replications, at other locations and on a different group of students are needed in order to: (a) observe the effectiveness of the Mentoring Program on other and larger groups of students; and (b) produce more empirical and robust results that can be generalised to the larger populations (Kelly et al., 2014; Michalopoulos, Schwartz & Adams-Ciardullo, 2001; Shadish, et al., 2002).*

In both experiments, the implementation of the interventions were not ideal. Firstly, it was not possible to organise the experiments in randomly assigned control and experimental groups within each class, or in classes that were randomly assigned to the experimental or control condition. As a result, the students in the experimental groups may have differed from the students in the control groups on some characteristics, like: study path (the way students learn and make progress in order to achieve their goal), and student characteristics (intrinsic motivation, study level and prior knowledge, learning strategies, self-efficacy level and prior affinity with the 5Keys). These variables were not measured in the project. Pretest differences in students' display of the 5Keys were taken into account by looking at the difference scores between the posttest and pretest when comparing the experimental group to the control group. To address this issue in future studies, the following recommendation is made:

Recommendation 2: *Design the implementation of the intervention with individual students randomly assigned to the experimental and control groups, which would generate stronger empirical evidence and robustness of the findings that the Mentoring Program caused the changes in students' display of the 5Keys.*

Another limitation of both interventions was that the secondary school students and college students were not preselected on their need of learning the 5Keys. This aspect was addressed by analysing the results of the pretest self-evaluations of the students for the secondary school students, and both the teachers' assessment of the students and the students' self-assessment for the college students. Evaluating the pretest scores of the secondary school students' self-assessments, it could be seen that there were about 30% of the students in the experimental group who assessed themselves as displaying the 5Keys at the average between 3 to 6 on the 10 point scale, which are rather low values. This was not surprising, for the literature

often reports similar rates of behavioural and emotional problems, as self-assessed by students (Pathak, Sharma, Parvan, Gupta, Ojha, & Goel, 2011). The Ph.D. student made a list of those students who reported low display of the 5Keys and asked the secondary school coaches to fill in an evaluation form for each of those students. The coaches were surprised by the large number of students who assessed themselves so lowly, and dismissed the request saying that their students did not lack those 5Key skills. Presumably, those students should have been offered more coaching, but the coaches failed to observe their needs. Eventually, the coaches accepted to fill in a Teacher Form for ten students in the experimental group and for ten students in the control group. The underachievers were selected by their coaches who used the criteria for the 5Keys (the *Teacher Form*), and also their previous experience with the students. It is possible that some students in the experimental group were in need of being coached or started showing behavioural and emotional changes, but the coach failed to see those needs due to his/her predetermined image about those particular students (De Boer, Bosker, & van der Werf 2010; Mih, 2010; Timmermans, de Boer, & van der Werf, 2016). Thus, the very limitation caused by the self-perceived beliefs of the coach on the students' achievement needs to be mentioned here.

Moreover, the fact that the underachievers' display of the 5Keys was assessed by their personal coaches in the secondary school experiment can be considered a limitation as well. The coaches might have overrated the underachievers, because they knew their evaluations were to be used as part of the study on the effectiveness of the programme that they had implemented themselves. In the literature, this phenomenon is called the Hawthorne Effect (Sedgwick, 2012), explaining that it appears in some participants in experiments who tend to change their behaviour, in our case coaches possibly overrating underachievers' display of the 5Keys at the posttest, because they knew these students received the intervention. In the case of the college

students experiment, other teachers than the personal coach, assessed the students, which diminished the risk of overrating the students' display of the 5Keys at the posttest measurement.

There was no preselection of the college students in need of learning the 5Keys in the second experiment either. This aspect was addressed by analysing the results of the pretest self-evaluations of the students and the teachers' evaluations of the students, and the Mentoring Program was customised according to each student's needs. This resulted in a lot of work and differentiation in the approach, which may be too much for one coach if needing to be done on a regular basis. It is acceptable and doable for a period of time, but for a longer period, this approach might require more persons and logistics to handle such an enterprise.

In the case of the experiment on secondary school students, it was not possible to organise a set-up focused solely on underachievers, facilitating the intervention in a small group setting, which could have resulted in stronger effects than those found in this study. Mentoring in small groups would give teachers more time to work with the students who actually needed to work on the 5Keys. The decision to offer the programme to a whole-class setting was a management decision. The manager of the secondary school decided to use the Program, but there was no logistic support to offer it in small groups (maximum 10/12 students per group, or even smaller groups), such as financial compensation to the coaches involved for the extra mentoring hours. Therefore, in order to evaluate whether the Mentoring Program is more effective for students at risk of underachievement or dropout, a set of recommendations for future replications are to:

Recommendation 3: *Firstly, preselect the student participants based on their (lack of) display of the 5Keys and their willingness to work on those skills. Secondly, consider involving more expert coaches when a relatively large group of students needs support. Thirdly, consider*

involving external assessors in order to prevent the influence of Hawthorne Effects in assessors when evaluating students. Fourthly, design the implementation with small mentoring groups with direct focus on underachievers, which may generate higher quality implementation of the YCDI! Mentoring Program (Bernard, 2005) and offer more room for specific feedback.

Another important limitation, an issue that was also mentioned in the guidelines of the programme (Bernard, 2005), is that the programme works if both parties, mentor and student, cooperate, which was probably not the case in the first experiment, since it was presented as additional material for the mentoring classes. Presumably, the effects of the programme were stronger in the second experiment among college students than in the first experiment among secondary school students, due to the shared enthusiasm and cooperation of both coach and students.

As stated earlier, the involvement and commitment of the secondary school coaches who implemented the programme was low. It was a management decision to implement the programme, and the coaches had no say in it. During the training session, it became clear that they were not so enthusiastic about it. They asked for a certificate of participation, and there was an obvious disappointment when they were told that it was not possible. They were also not very enthusiastic when they were informed that they would have to prepare for the sessions, which is why the Ph.D. student prepared extra materials to simplify their work. The extra materials were the student activities in the programme, and preparing them had a practical reason, too. On the one hand, it helped the student keep all the activities in the programme in a neat and organised way, and, on the other hand, it eased the coaches' work, by them not having to copy the activities before each class. There was only one coach who showed interest in the programme, and that was probably due to his declared affinity with the REBT approach.

The decision to participate in such an experiment should be taken together with the teaching team in order to involve them in the decision-making process and share the ownership of the project. This will eventually ensure more involvement on the part of those involved in its implementation (Durlak & DuPre, 2008; Gaventa, 2007). Brodie et al. (2009) suggest that cooperating teachers display different ways of involvement, elements which are essential for a successful implementation of classroom intervention, expressed through providing specific feedback, modelling practice, supporting reflection, encouraging social-emotional transfer of skills and knowledge based on a positive and constructive relationship with the student. Considering the aforementioned limitations, we, therefore, recommend the following approach for future replications:

Recommendation 4: *Create shared ownership of the experiment and more cooperation between the researchers and teachers (and school leader), for a successful implementation of classroom interventions.*

Furthermore, the duration of the programme, one school year for the secondary school experiment, might have been too long, and the students and mentors might have lost their interest in it. In similar studies, as presented in the Research section of Chapter 4, the researchers used a shorter time frame, during which only certain Keys were discussed and practiced. Thus, a shorter implementation period focusing specifically on a certain topic, e.g. persistence, for a 12-week course, would have been probably more efficient (Slavin, 2008). Because the Mentoring Program is structured on five main topics representing the 5Keys containing sufficient mentoring activities for a whole school year with weekly mentoring sessions, the Ph.D. student decided to suggest this long implementation phase. A long implementation phase, and preferable with a whole-school approach, is not unusual and it is also advised in the guidelines of the Mentoring

Program. It may present some advantages, too, such as a longer exposure of the students to the concepts of the programme, and more time for the mentors and students to familiarise and internalise the socio-emotional principles of the programme (Bernard, 2005). These observations lead into the following recommendation:

Recommendation 5: *Consider either a longer (whole-school approach) intervention period (full-year, multi-year) focusing on all 5Keys, or separate, and thus shorter (e.g. 12 weeks) for each of the 5Keys (Meiklejohn et al., 2012) for a more effective impact of the Mentoring Program on the students.*

Considering the problems that were encountered in the secondary school experiment, more teacher guidance in implementing the content of the programme should be included in future experiments. Also, as suggested in the guidelines of the YCDI! Mentoring Program (Bernard, 2005), the whole teaching team should be initiated into the principles of the YCDI! Education framework, which might help the mentors in their coaching effort. A recommendation that is suggested in many studies is to professionalise the coaching profession in order to ensure the quality of the mentoring process (Hankey, 2004). In order to evaluate the quality of the implementation, and to enable adjustments to the programme during the implementation phase when difficulties are encountered, we recommend the following:

Recommendation 6: *Firstly, the coaches who facilitate the mentoring classes should be specialised in coaching. Secondly, introduce "implementation checks" organized throughout the intervention, like: checking how many lessons of the programme were implemented; classroom observations to evaluate whether the programme was implemented as planned; and schedule observation moments to check to what extent students understood the topics of the programme and observe the difficulties they encountered.*

Two measurement points are not sufficient for making solid statements and drawing permanent conclusions in behavioural sciences (Kelly et al., 2014; Moore at al., 2014; Shadish et al., 2002). Social psychological behavioural theories claim that visible behavioural changes become permanent and a habit, when close monitoring and a lot of reinforcement and feedback is offered. This process takes time, and it also varies from person to person (Bandura, 2012; Bernard, 2005; Ellis & Bernard, 2006). In this case, there was no third follow-up measurement to observe further changes and to establish whether the effects were sustainable (Kelly et al., 2014; Shadish et al., 2002). For this Ph.D. study, a third measurement point was not possible to organise, therefore we highlight its importance and make the following recommendation for future studies:

Recommendation 7: *Design interventions with more measurement points and a follow-up measurement to evaluate the effectiveness of the intervention on the long term.*

Observing the decrease of student-related teacher stress was one of the goals of the first experiment. No significant statistical change in the student-related teacher stress level was observed, thus no correlation between student-related teacher stress and student attitudes and behaviours, as suggested by Bernard (1990) and Rogers (2004, 2012), could be established based on this experiment. Moreover, the pretest measurement showed an already low level of student-related teacher stress among the participating teachers. Because this aspect could not be addressed in this study, we recommend it for future studies.

Recommendation 8: *For future replications, preselect teachers who do experience high student-related teacher stress, and then observe whether the Mentoring Program effectively reduces student-related teacher stress as a result of the teachers' direct (personally use it for*

coaching students) or indirect (students are coached using the Program and the teacher only observes and experiences improved student behaviours and emotions) exposure to the Program.

An additional aspect that needs to be considered when implementing the Mentoring Program in higher education institutions of teaching is the content of the programme. For some topics, the theoretical support offered in the Mentor Notes of the programme was too basic for the college students in the experimental group. Moreover, some material included secondary school characters which automatically gave the impression that the material was for younger students. Suggestions for improvement of the material are included below.

The content of the programme could be improved by including critical thinking skills for personal and professional development (Paul & Elder, 2005, 2014). For this purpose, real-life and college-life situations and problem-solving tasks that help them reason effectively and develop reasoning skills and intellectual traits should be introduced. Students, especially 1st year students should also be helped to understand the logic of a college class, the logic of a textbook, how to learn effectively, how to adopt the way of thinking of the science they are studying. To develop critical thinking, they should also be taught about the intellectual standards (clarity, accuracy, relevance, logicalness, fairness, precision, completeness, fairness) and intellectual traits (intellectual humility, autonomy, integrity, courage, perseverance, confidence in reason, intellectual empathy, and fairmindedness) in order to improve the quality of their thinking, which will eventually boost their understanding and display of the 5Keys (Paul & Elder, 2014; see Appendix 8 for the Paul and Elder Model of Critical Thinking). Additionally, the delivery method should also include a variety of interactive resources like videos, podcast, online resources, self-monitoring apps and digital instruments. This way, students may be offered a variety of instruments they may choose from in order to learn from and self-monitor their

development. Hence, for future implementations of the Mentoring Program in tertiary education in particular and secondary education in general, we suggest an improvement of the theoretical model.

Recommendation 9: *Enrich the content of the Mentoring Program for tertiary education in particular, combining the core principles of the Mentoring Program with critical thinking skills for personal and professional development. Furthermore, irrespective of the target group, digital resources that may assist digital natives with their personal development needs should be included in the programme.*

In conclusion, the YCDI! Mentoring Program has proven, partially for the underachievers in the secondary school experiment and, more positively for the college students, to be a helpful instrument when coaching students for school success and well-being. As for the student-related teacher stress, the teacher sample used in the secondary school experiment rated their relationship with the students as not at all stressful, limiting the effects the programme could have on reducing student-related teacher stress. All in all, the effects of the programme are expected to be larger in future studies, provided that the programme is implemented as suggested by Bernard (2005), under more favourable conditions, with more room for control over the implementation and content of the programme. As for the theoretical content of the YCDI! Mentoring Program (Bernard, 2005), this should be improved, especially when offered to tertiary education students. More in-depth attention for intellectual and meta-cognitive skills should be included in the programme in combination with a variety of online educational resources and instruments.

De Nederlandse samenvatting (the Dutch summary)

Achtergrond van het onderzoek

Het eerste doel van het Ph.D. project was het evalueren van de effectiviteit van het ‘You Can Do It! (YCDI) Mentoring Programma (Bernard, 2005) op sociaal-emotionele kenmerken en het gedrag van leerlingen in het voortgezet onderwijs en studenten in het hoger onderwijs, gemeten als de mate van zelfvertrouwen, doorzettingsvermogen, organisatie, goed met anderen kunnen opschieten, en emotionele veerkracht (de 5Keys). Michael Bernard (2005), die het Mentoring Programma heeft ontwikkeld, en Brown (1999), de enige mij bekende onderzoeker die experimenteerde met het Mentoring Programma en hierover publiceerde, stellen dat het programma kinderen en jongeren kan helpen die minder bereiken dan hun potentieel, ook wel ‘onderpresteerders’ genoemd. In het bijzonder stellen ze dat het verbeteren van de 5Keys onderpresteerders kan helpen zich aan te passen en beter te presteren op school. De nieuwste studies naar de effecten van verschillende YCDI! Educatie programma's (Ashdown & Bernard, 2012; Bernard, 2008, 2008a, 2017; Bernard & Anglim, 2012; Bernard & Walton, 2011; Daniela & Bernard; 2011; Markopoulos & Bernard, 2015; Yamamoto, Matsumoto, & Bernard, 2017) wijzen allemaal op een toename in schoolprestaties en sociale veerkracht van kinderen, en die van onderpresteerders in het bijzonder.

In de literatuur worden emotionele en gedragsproblemen van leerlingen vaak als een van de belangrijkste bronnen van stress genoemd voor leraren in het voortgezet onderwijs (Bernard, 1990; DUO 2012; ETUCE 2012; Rogers, 2004, 2015). In de literatuur wordt ook gesuggereerd dat als de sociaal-emotionele vaardigheden van leerlingen verbeteren, leraren minder stress zullen ervaren in hun relatie met de leerlingen. Om deze reden was het tweede doel van het Ph.D. project om de effectiviteit van het programma op de mate van stress van leraren te onderzoeken,

dat wil zeggen, de mate van stress die zij ervaren die direct gerelateerd is aan lesgeven aan / werken met leerlingen met emotionele en/of gedragsproblemen. In het onderzoek is gekeken of de mate van deze zogenaamde leerling-gerelateerde stress bij de leraren in het voortgezet onderwijs was afgenomen, nadat de leerlingen middels het Mentoring Programma aan de 5Keys hadden gewerkt. Om de effectiviteit van het Mentoring Programma op de onderontwikkelde emoties en gedragingen van leerlingen en studenten te evalueren, zijn twee experimentele studies uitgevoerd in twee verschillende groepen, namelijk een groep middelbare scholieren en een groep studenten in het HBO. In het eerste experiment, waarbij leerlingen en leraren van het voortgezet onderwijs betrokken waren, lag de focus van het onderzoek op de effectiviteit van het programma op de leerlingen en op de mate van leerling-gerelateerde stress bij de leraren. Er zijn twee onderzoeksvragen over de leerlingen geformuleerd:

(OV 1*) Wat is de effectiviteit van het YCDI! Mentoring Programma op de mate van vertrouwen, doorzettingsvermogen, organisatie, goed met anderen kunnen opschieten en emotionele veerkracht van leerlingen?*

(OV 2) *Wat is de effectiviteit van het YCDI! Mentoring Programma op de mate van vertrouwen, doorzettingsvermogen, organisatie, goed met anderen kunnen opschieten en emotionele veerkracht van zogenaamde 'onderpresteerders'?*

Voor de mate van leerling-gerelateerde stress van leraren zijn twee onderzoeksvragen geformuleerd:

(OV 3) *Wat is de effectiviteit van het Mentoring Programma op de mate van leerling-gerelateerde stress van leraren?*

(OV 4) *In hoeverre kan de verandering in leerling-gerelateerde stress van leraren worden verklaard door de gedrags- en emotionele veranderingen van leerlingen in het algemeen en onderpresteerders in het bijzonder?*

Voor het tweede experiment, gericht op studenten van de februari-instroom in het HBO, was de interventie alleen gericht op het verbeteren van de 5Keys bij de studenten. De effectiviteit van het programma op de mate van student-gerelateerde stress van docenten is niet onderzocht, vanwege het feit dat de literatuur (DUO, 2012, 2017; ETUCE, 2012; Smulders & Hupkens, 2007) suggereert dat docenten in het hoger onderwijs minder student-gerelateerde stress ervaren dan leraren in het voortgezet onderwijs. De onderzoeksvraag voor het tweede experiment luidde:

(OV 5) *Wat is de effectiviteit van het YCDI! Mentoring Programma op de mate van vertrouwen, doorzettingsvermogen, organisatie, vooruitgang en emotionele veerkracht van studenten?*

Onderzoeksmethode

In beide empirische onderzoeken is een experimentele onderzoeksopzet gebruikt, met een experimentele en een controlegroep en een voor- en een nameting. Het eerste experiment, gericht op leerlingen van het voortgezet onderwijs, duurde één schooljaar en het tweede experiment, dat zich richtte op studenten van de februari-instroom in het HBO, duurde zes maanden. In beide experimenten is het YCDI! Mentoring Programma (Bernard, 2005) geïmplementeerd als interventie voor de experimentele groep en een zogenaamde *treatment as usual* conditie voor de controlegroep.

Een school voor voortgezet onderwijs in het noorden van Nederland was bereid om het YCDI! Mentoring Programma te implementeren. De manager van de middelbare school hoopte dat het programma de leerlingen zou kunnen helpen zich beter te ontwikkelen en (impliciet) ook

de mentoren zou kunnen helpen bij het begeleiden van de leerlingen. Zijnde een school met twee locaties in twee verschillende delen van de provincie, werd één locatie gekozen door de manager van de school als controlegroep en één locatie als experimentele groep. Het totale aantal leerlingen dat deelnam aan de studie was 144 (N = 72 in de experimentele groep en N = 72 in de controlegroep). Wat betreft de leraren die deelnamen aan het experimentele programma, waren er in totaal 18 leraren (N = 9 in de experimentele groep, en N = 9 in de controlegroep), dit aantal vertegenwoordigt alle leraren die reguliere lessen gaven aan de leerlingen die deelnamen aan het onderzoek. Het Mentoring Programma werd in het schooljaar 2013-2014, gedurende het hele schooljaar, voor alle leerlingen aangeboden in wekelijkse mentorbijeenkomsten met de hele klas. De sessies werden begeleid door de mentoren van de leerlingen, die eerder waren getraind in het gebruik van het programma door de promovenda en een andere deskundige op het gebied van mentale gezondheid.

In het geval van het experiment met HBO studenten op een hogeschool in Noord-Nederland, hoopte de programmabeheerder dat, door het implementeren van het Mentoring Programma bij de februari-instroom, studenten de nodige hulpmiddelen zouden verwerven om hun studieprogramma succesvol af te ronden. De uitval onder de februari-instroom is groot, en het verbeteren van de 5Keys zou bij kunnen dragen aan het terugbrengen van het aantal studenten dat voortijdig met de studie stopt. Twee mentorgroepen van de februari-instroom zijn geselecteerd om deel te nemen aan het experiment en twee mentorgroepen fungeerden als controlegroep. Eenendertig studenten ontvingen het YCDI! Mentoring Programma tijdens bijeenkomsten waarin het ‘persoonlijk ontwikkelingsplan’ (POP) centraal stond, gedurende een heel semester, 16 weken, in het academische jaar 2014-2015. De controlegroep bestond ook uit 31 studenten, van dezelfde opleiding als de studenten in de experimentele groep. De coaching-

sessies werden gegeven door de promovenda die getraind is in het gebruik van sociaal-emotionele coaching technieken en een achtergrond heeft in de psychologie. Wat de coaching strategieën voor dit experiment betreft, werd gebruikgemaakt van een combinatie van face-to-face coaching bijeenkomsten met de hele groep, regelmatige individuele gestructureerde ontmoetingen met de coach en was er ruimte voor online contact en feedback tussen de coach en individuele studenten.

Voor de beoordeling van de effectiviteit van het YCDI! Mentoring Programma in beide experimenten zijn data verzameld op twee momenten (pre- en posttest), waarbij op beide meetmomenten steeds twee verschillende percepties zijn gemeten: de zelfperceptie van de leerlingen/studenten en de perceptie van de mentoren/coaches over de leerlingen/studenten. Voor het experiment in het voortgezet onderwijs vulden alle leerlingen die deelnamen aan het experiment een vragenlijst in over zichzelf (N = 72 leerlingen in de experimentele groep en N = 72 leerlingen in de controlegroep), en voor beide groepen evalueerden de mentoren die het programma hadden geïmplementeerd een kleine groep zogenaamde ‘onderpresteerders’ (N = 10 onderpresteerders in de experimentele groep, en N = 10 onderpresteerders in de controlegroep), dat wil zeggen leerlingen waarvan de mentoren aangaven dat zij tot die categorie behoorden. Wat het experiment met HBO studenten betreft, beoordeelden andere docenten dan de coach die het programma implementeerde, alle studenten (N = 31 studenten in de experimentele groep en N = 31 studenten in de controlegroep). Bovendien voerden alle HBO studenten zelfevaluaties uit. Vanuit de gedachte dat alle studenten van de februari-instroom met enige achterstand aan hun studie beginnen, is geen onderscheid gemaakt tussen reguliere en ‘onderpresterende’ studenten, zoals bij het experiment in het voortgezet onderwijs het geval was.

Voor de zelfevaluaties van de leerlingen/studenten is het zelfrapportageformulier: *My keys to success and happiness* (Bernard, 2005) gebruikt; voor de evaluatie van de mentoren/coaches, de *The Evaluating Student's Foundations for achievement: Teacher Form* (Bernard, 2005). Beide vragenlijsten bevatten dezelfde items, maar dus vanuit twee verschillende perspectieven: het perspectief van de leerlingen/studenten en het perspectief van de mentoren/coaches over de leerlingen/studenten. Voor het inventariseren van de mate van leerling-gerelateerde stress van leraren in het voortgezet onderwijs is een enquête ontworpen op basis van de meest voorkomende emotionele en gedragsproblemen van middelbare scholieren zoals vermeld in de literatuur en items uit de vragenlijst *The Evaluating Student's Foundations for achievement: Teacher Form* (Bernard, 2005) die ook gebruikt is door de mentoren/coaches om de 5Keys van de leerlingen/studenten te beoordelen.

Samenvatting van de onderzoeksresultaten

Omdat er twee experimenten zijn uitgevoerd, worden de bevindingen gepresenteerd per experiment en per onderzoeksvraag. Zoals eerder vermeld, omvatten de analyses de evaluatie van de leerlingen/studenten vanuit twee invalshoeken: de zelfpercepties en de percepties van hun mentoren/coaches.

De eerste onderzoeksvraag was gericht op het effect van het YCDI! Mentoring Programma op het vertrouwen, doorzettingsvermogen, organisatie, vooruitgang en emotionele veerkracht van leerlingen in het voortgezet onderwijs. Op basis van de resultaten van de zelfevaluatie van alle leerlingen die deelnamen aan het experiment, verwerpen we de hypothese dat het Mentoring Programma positieve effecten heeft gehad op de leerlingen. De resultaten lieten geen significante verbeteringen zien in het waargenomen zelfbeeld van de leerlingen in de experimentele groep. De leerlingen in de experimentele groep rapporteerden geen hogere mate

van inzet (ofwel het gebruik) van de 5Keys op de nameting, in vergelijking met de leerlingen in de controlegroep.

De tweede onderzoeksvraag had betrekking op de effectiviteit van het YCDI! Mentoring Programma op het vertrouwen, het doorzettingsvermogen, de organisatie, vooruitgang en de emotionele veerkracht van de groep onderpresteerders. Een significant positief effect van het programma werd waargenomen, gebaseerd op de evaluaties door de coaches wat betreft de 5Keys van de onderpresteerders in de experimentele groep. Op basis van de evaluaties van de coaches bleken de onderpresteerders in de experimentele groep alle van de 5Keys in sterkere mate te laten zien na de implementatie dan vóór de implementatie van het programma, en het verschil in vooruitgang van pre- naar posttest tussen de experimentele en controlegroep was aanzienlijk voor drie van de vijf Keys (doorzettingsvermogen, organisatie en emotionele veerkracht). Wat de zelfperceptie van de onderpresteerders in de experimentele groep betreft, rapporteerden de onderpresteerders iets hogere scores wat betreft het gebruik van drie van de 5Keys bij de nameting dan bij de voormeting, terwijl de onderpresteerders in de controlegroep rapporteerden hogere scores voor alle van de 5Keys ook in vergelijking met de experimentele groep. Deze resultaten laten zien dat het programma, een gedeeltelijk positief effect had op onderpresteerders.

Voor de derde onderzoeksvraag, met betrekking tot de effectiviteit van het Mentoring Programma op de mate van leerling-gerelateerde stress bij leraren, lieten de resultaten zien dat de mate van stress die leraren ervoeren door het lesgeven aan/werken met leerlingen al vrij laag was bij de voormeting. Na implementatie van het Mentoring Programma was dan ook geen statistisch significante verandering zichtbaar in de mate van ervaren leerling-gerelateerde stress. Er is dus geen evidentie gevonden voor de hypothese dat de interventie ook zou kunnen bijdragen aan het

verminderen van leerling-gerelateerde stress bij leraren, zoals gesuggereerd door Bernard (1990) en Rogers (2004, 2012). Dientengevolge kon de vierde onderzoeksvraag, of de afname in leerling-gerelateerde stress bij docenten (deels) verklaard kon worden uit de verbetering van de 5Keys bij leerlingen niet worden beantwoord.

In het tweede experiment is het effect van het YCDI! Mentoring Program (Bernard, 2005) op de 5Keys van de studenten van de februari-instroom onderzocht. De hypothese dat het Mentoring Programma een positief effect had op de 5Keys van studenten werd ondersteund door de data. De studenten in de experimentele groep rapporteerden hogere scores in de nameting dan in de voormeting, bovendien was er geen duidelijke verbetering van de 5Keys zichtbaar bij de studenten in de controlegroep. De hypothese werd ook ondersteund door de resultaten van de percepties van de coaches over de studenten. De verschillen tussen de voor- en nameting in deze groep waren significant groter dan in de controlegroep.

Conclusies en discussies

Gezien bovenstaande bevindingen kan aan de ene kant worden geconcludeerd dat, in het voortgezet onderwijs, het YCDI! Mentoring Programma (Bernard, 2005) de onderpresteerders in de experimentele groep geholpen heeft om, zoals mentoren hebben waargenomen, op een positieve manier hun emoties beter te reguleren en hun gedrag te veranderen. Aan de andere kant zijn er, op basis van hun zelfpercepties, geen positieve effecten gevonden voor de gehele groep leerlingen in de experimentele groep. Het is alsnog mogelijk dat de 5Keys van de leerlingen door het programma positief zijn verbeterd, maar dat is niet zichtbaar in de zelfpercepties van de leerlingen. Wat de leerling-gerelateerde stress van leraren betreft, kon geen significante statistische verandering worden waargenomen.

Met betrekking tot het tweede experiment met HBO studenten wordt geconcludeerd dat het YCDI! Mentoring Programma (Bernard, 2005) de studenten van de februari-instroom stimuleerde om op een positieve manier te veranderen met betrekking tot het inzetten van de 5Keys. Coaches en studenten hebben dit zelf waargenomen.

De belangrijkste bevindingen van het onderhavige onderzoek worden hieronder nader verklaard en bediscussieerd. Er wordt aandacht geschonken aan de gebruikte meetinstrumenten (zelfrapportage van leerlingen/studenten van de 5Keys en de beoordeling van de mentoren/coaches), implementatie van de interventie en de samenstelling van de steekproef in het onderzoek.

Ten eerste, zoals de statistische analyse van de zelfpercepties van de leerlingen in het voortgezet onderwijs laat zien, rapporteerden de leerlingen in de experimentele groep, de gehele groep presteerders en onderpresteerders samen, vergelijkbare niveaus van het inzetten van de 5Keys bij de voor- en nameting, na een jaar te zijn blootgesteld aan het YCDI! Mentoring Programma (Bernard, 2005). Het kan zijn dat het Mentoring Programma geen positieve effecten op de leerlingen heeft gehad. Een alternatieve verklaring zou echter kunnen zijn, dat de leerlingen zich niet bewust waren van hun toegenomen gebruik van de 5Keys. Deze verklaring wordt ondersteund door de *self-efficacy theory* van Bandura (1977, 1986, 2012). Het zou kunnen dat de leerlingen hun zelfvertrouwen en zelfbeeld niet hebben bijgesteld, ondanks veranderingen in hun gebruik van de 5Keys. Opgemerkt dient te worden dat de door leerlingen gerapporteerde zelfpercepties van de 5Keys, niet voor alle leerlingen konden worden vergeleken met de evaluatie van de mentoren, omdat de mentoren alleen de onderpresteerders hebben geëvalueerd. Een evaluatie van de mentoren van alle leerlingen was helaas niet mogelijk. Een andere

verklaring kan zijn dat niet alle leerlingen de 5Keys van het aangeboden programma hoefden te leren, omdat zij deze al in voldoende mate beheersten.

De bevindingen voor het tweede experiment, bij de studenten van de februari-instroom, toonden positieve veranderingen in alle 5Keys waarop het experiment was gericht. Dit resultaat werd ondersteund door de zelfpercepties van de studenten en door de evaluaties van de coaches. Deze resultaten zijn in overeenstemming met de resultaten gepresenteerd door Brown (1999), en ook in overeenstemming met de resultaten van andere studies over het YCDI! Education kader (Ashdown & Bernard, 2012; Bernard, 1995, 2004, 2008, 2012, 2017; Bernard & Anglim 2012; Bernard & Walton, 2011; Brooks, 1999; Buddecke, 2002; Campbell, 1999; Daniela & Bernard, 2011; Day, 1998; Eddy, 2000; Hudson, 1993; Markopoulos & Bernard, 2015; Pina, 1996; Yamamoto, Matsumoto & Bernard, 2017). Deze resultaten onderschrijven de effectiviteit van het Mentoring Program bij studenten van de februari-instroom.

Ten tweede, de positieve effecten van het programma op de onderpresteerders in het voortgezet onderwijs (zoals bleek uit de evaluaties van de coaches) waren klein in vergelijking met de resultaten van de studie van Brown (1999) en andere studies die met andere YCDI Education programma's experimenteerden. Een verklaring hiervoor kan zijn dat het YCDI! Programma in die studies werd aangeboden in kleine groepen en individuele sessies, terwijl voor de onderhavige studie een klassikale aanpak is gebruikt. Hierdoor was er helaas geen ruimte voor individuele contact- en feedbackmomenten met de onderpresteerders. Dit kan ook de reden zijn waarom sommige onderpresteerders zichzelf lager inschatten dan de evaluaties van hun mentoren aangaven. Door het ontbreken van reguliere individuele gesprekken met de mentor om de voortgang op het gebied van de 5Keys te bespreken, hebben leerlingen mogelijk te weinig

feedback gekregen op hun functioneren. Mogelijk heeft dit hun zelfbeeld negatief beïnvloed. Tot slot is het ook mogelijk dat de mentoren de onderpresteerders gunstiger hebben beoordeeld bij de nameting, omdat ze de onderpresteerders zelf hadden gecategoriseerd als onderpresteerders, en de mentoren dus wisten dat ze aan een experiment deelnamen.

In het tweede experiment is het onderzoeksontwerp zelf een belangrijke factor die de positieve resultaten kan verklaren; een vorm van persoonlijke ontmoetingen, aangevuld met online coaching, waarbij de studenten 24/7 toegang hadden tot hun coach, vormden daarin de sleutelwoorden. De studenten voelden zich bijgestaan en geholpen, en dat feit heeft vermoedelijk hun zelfvertrouwen vergroot, en als gevolg daarvan hun motivatie en deelname. Dus, kan bij sommige studenten, het positieve resultaat ook aan de ondersteunende invloed van de coach hebben gelegen. Dit aspect wordt ook benadrukt en aanbevolen in de richtlijnen van het programma zelf (Bernard, 2005).

Ten derde is het belangrijk te vermelden dat, in het experiment in het voortgezet onderwijs, het aantal onderpresteerders geïdentificeerd door de mentoren van beide groepen tien was, wat neerkomt op 14% van de leerlingen in de studie (N = 10 voor de experimentele groep en N = 10 voor de controle groep). Dit feit valideert de stellingname in meerdere onderzoeken waarin wordt gesteld dat ongeveer 15% tot 20% van de leerlingen in het middelbare onderwijs zichtbare emotionele en gedragsproblemen vertoont. Tegelijkertijd stellen deze studies dat in werkelijkheid het aantal leerlingen met gedragsproblemen en emotionele problemen veel hoger is, soms tot 30-40%, maar omdat ze geen "problemen" veroorzaken, worden deze leerlingen niet als ‘problematisch’ gezien (Pathak, Sharma, Parvan, Gupta, Ojha, & Goel, 2011). Dit kan

betekenen dat er meer leerlingen met genoemde problemen in de onderzoeksgroepen kunnen hebben gezeten.

Voor het tweede experiment werden alle studenten van de februari-instroom geselecteerd om deel te nemen. De veronderstelling was dat alle februari-starters altijd in een zwakke positie verkeren, vanwege de begindatum van hun studie. Ze lijken meer hulp nodig te hebben om op het goede spoor te blijven in vergelijking met de studenten die in september beginnen. Aan de februari-starters wordt doorgaans geen speciaal georganiseerd studieprogramma wordt aangeboden, maar zij schuiven halverwege het jaar aan bij het reguliere programma. Onder docenten bestaat de indruk dat deze studenten sneller gedemotiveerd raken en overweldigd worden door de hoge eisen van het studieprogramma en vaker dan de september-instroom uiteindelijk de opleiding verlaten. Dit werd ook waargenomen in dit onderzoek. Bij vergelijking van de twee groepen, kwamen van de 31 studenten van de experimentele groep die aanvankelijk aan de studie deelnamen, slechts 13 tot het derde jaar van hun studie, en ook in de controlegroep zaten slechts 15 van de oorspronkelijke 31 nog in het programma in hun derde studiejaar. De positieve resultaten bij de februari-instroom kunnen ook het resultaat zijn van andere factoren die tijdens het experiment verandering in de attituden van studenten hebben veroorzaakt en die niet in dit onderzoek zijn gemeten. Wellicht hadden enkele studenten juist een zeer hoge motivatie om de studie tot een succesvol einde te brengen (bv. omdat ze in eerste instantie een verkeerde studiekeuze hadden gemaakt in september). Ook kunnen de eisen van de opleiding, studenten er juist toe aanzetten om de benodigde kennis in een hoger tempo te verwerven dan bij studenten van de september-instroom.

Tot slot, in het experiment in het voortgezet onderwijs, zagen we geen verandering in de mate van leerling-gerelateerde stress bij de leraren, ondanks hun blootstelling aan het programma, en ondanks het feit dat uit de evaluaties van de mentoren bleek dat de onderpresteerders wel vooruit waren gegaan door het programma. Dit kan de Rationeel-emotieve gedragstherapie (RET) ondersteunen, die suggereert dat het niet noodzakelijk de trigger is, in dit geval de gedragsproblemen en emotionele problemen van leerlingen, die de leraar stress of onrust bezorgt, maar alleen de mentale houding van de leraar om die problemen wel of niet als stressvol te ervaren (Ellis & Bernard, 2006). Bernard (1990) en Rogers (2004, 2012) suggereren ook dat het eigen systeem van denken, verwerken en omgaan met de stressvolle situaties is, dat bepaalde stress triggers leiden tot een stressvolle ervaring of niet. Als we deze argumenten vanuit dit perspectief analyseren, kan ook worden geconcludeerd dat de leraren in deze studie waarschijnlijk al over de nodige coping-strategieën beschikten en dat dit vermoedelijk een van de redenen was waarom ze zelf hun mate van leerling-gerelateerde stress niet hoog vonden.

Sterke en zwakke punten en suggesties voor vervolgonderzoek

Dit proefschrift draagt bij aan de empirische onderbouwing voor de theorie en praktijk van het YCDI! Education kader. Het uitvoeren van deze twee experimenten op twee verschillende doelgroepen met twee vergelijkbare onderzoekontwerpen geeft enkele nieuwe inzichten in vergelijking met andere studies die het YCDI Education kader hebben gebruikt.

Allereerst was de implementatie van het YCDI! Mentoring Programma een pioniersinspanning, namelijk de eerste implementatie van programma in Nederland ten tijde van het begin van dit onderzoek, en de tweede wereldwijd na het experiment van Brown (1999).

Ten tweede, een nieuw aspect in het ontwerp van het eerste experiment, in vergelijking met andere onderzoeken die het YCDI-model hebben gebruikt, was het meten van "leerling-gerelateerde stress bij leraren" in de studie voor het voortgezet onderwijs.

Ten derde was er in het onderzoek een goede afstemming tussen de theorieën waarop het programma is gebaseerd, de inhoud van het programma zelf en de meetinstrumenten die werden gebruikt om de effectiviteit ervan te evalueren. Bovendien werden gevalideerde meetinstrumenten gebruikt, die de weergave van de 5Keys van leerlingen/studenten vanuit twee verschillende perspectieven evalueerden: die van de leerlingen/studenten zelf en die van de coaches (in experiment 1) en de docenten (in experiment 2).

Ten vierde introduceerde het implementatieontwerp in het tweede experiment voor de studenten een moderne manier om studenten te coachen, door de combinatie van face-to-face en online contactmomenten tussen de mentor en de studenten, hetgeen niet eerder gebruikt is in studies op basis van het YCDI! Education kader. En ten slotte was de experimentele groep op de middelbare school vrij groot in vergelijking met de steekproefgrootte in de studie van Brown (1999). Het gebruik van een grotere steekproef resulteert in verhoogde betrouwbaarheid van de resultaten.

Hoewel het onderzoek resulteerde in positieve resultaten voor onderpresteerders in het voortgezet onderwijs (in de ogen van de mentoren) en ook voor HBO studenten van de februari-instroom, zijn verdere replicaties van de experimenten noodzakelijk om meer empirische en robuuste resultaten te vinden die gegeneraliseerd kunnen worden naar de populatie. We hebben daarvoor enkele concrete aanbevelingen.

Bij het opzetten van replicatiestudies zouden de participanten random toegewezen moeten worden aan de experimentele en controlegroepen. Daarnaast werd met het onderhavige onderzoek duidelijk dat het zinvol is om participanten te selecteren op basis van hun (gebrek aan) inzet van de 5Keys en hun bereidheid om aan die vaardigheden te werken. Daarnaast kan het toevoegen van meer meetmomenten, bijvoorbeeld een extra vervolgmeting, zinvol zijn, om de effectiviteit van de interventie op de langere termijn te evalueren. Ten tweede, is het voor de praktische haalbaarheid van de interventie belangrijk om meer coaches in te schakelen voor de uitvoering, wanneer een relatief grote groep studenten ondersteuning nodig heeft. Een derde aanbeveling is om externe beoordelaars te betrekken om de invloed van de Hawthorne-effecten (onderwaardering/overschatting) bij mentoren/coaches bij de evaluaties van leerlingen/studenten te voorkomen. Een vierde aanbeveling is het creëren van gedeeld eigenaarschap van het experiment en meer samenwerking tussen de onderzoekers en docenten (en schoolleider) voor een succesvolle implementatie van dit type interventies. Een vijfde aanbeveling is om ofwel een langere interventieperiode met aandacht voor alle 5Keys te overwegen, zodat participanten voldoende tijd hebben om zich te ontwikkelen op deze gebieden, of dat juist wordt gekozen voor kortere implementatieperiodes (bijv. 12 weken) voor elk van de 5Keys, voor een meer gerichte aanpak. Een zesde aanbeveling om de effectiviteit van het Mentoring Programma op het reduceren van leerling-gerelateerde stress bij docenten verder te onderzoeken, is het vooraf selecteren van leraren die een hoge mate van dit type stress ervaren en vervolgens bekijken of het Mentoring Programma de mate van leerling-gerelateerde stress effectief vermindert. Een zevende aanbeveling is om de inhoud van het Mentoring Programma verder te verrijken en toe te spitsen op de specifieke leeftijdsgroepen, met name voor het tertiair onderwijs, waarbij de kernprincipes van het Mentoring Programma zouden kunnen gecombineerd worden met

aandacht voor persoonlijke en professionele ontwikkeling binnen de gekozen studierichting. Ten slotte onderschrijft het onderhavige onderzoek dat digitale middelen en digitale ondersteuning de jongere generatie kan helpen bij hun persoonlijke ontwikkelingsbehoeften. Deze mogelijkheden kunnen in vervolgonderzoek verder verkend worden en als vaststaand element in het programma worden opgenomen.

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Appendix 1 A short history of Rational Emotive Education (REE)

Rational Emotive Education (REE), or rational-emotional learning (REL), emerged from diverse psychological and educational theories. Primarily, there are Rational Emotive Behavioural Therapy (REBT) and Cognitive Behavioural Therapy (CBT) theories. These theories identify some concrete social-emotional capabilities and disabilities that are associated with students' well-being, achievement and relationships (Vernon & Bernard in Ellis & Bernard, 2006, pp. 415-423).

CBT, developed by Aaron T. Beck in the '60s, is a term that accommodates the varieties of cognitive therapies that share some common elements. It is a form of psychotherapeutic intervention widely used in psychotherapy, counselling and life coaching, to help people acquire more adaptable patterns of thinking and behaviour to life situations, in order to diminish their psychological distress. The core theory of CBT holds that there is a close interaction between the way people think, their cognitions, how they feel, their emotions, and how they act, their behaviour. The problem emerges from the faulty thinking patterns/cognitions people hold. In other words, our thoughts determine our feelings, and consequently our behaviour.

REBT is one of those forms of cognitive therapy, developed in the '50s by Albert Ellis, which emerged from CBT. It preserves the belief of the interaction between cognition/thought, emotions/feelings and action/behaviour, and to these, *the common irrational set of beliefs* is added. Ellis argued that all people have a set of irrational assumptions which invite irrational and unrealistic expectations from others, society, and self. These unrealistic and irrational assumptions might take the forms of *musts* (I must be respected, by my peers/society), and/or *shoulds* (It should not happen to me!). The novelty with REBT is that these common irrational

assumptions are to be debated and challenged, and brought to a realistic/rational level (Bernard, Ellis & Terjesen, in Ellis & Bernard, 2006, pp. 5-6).

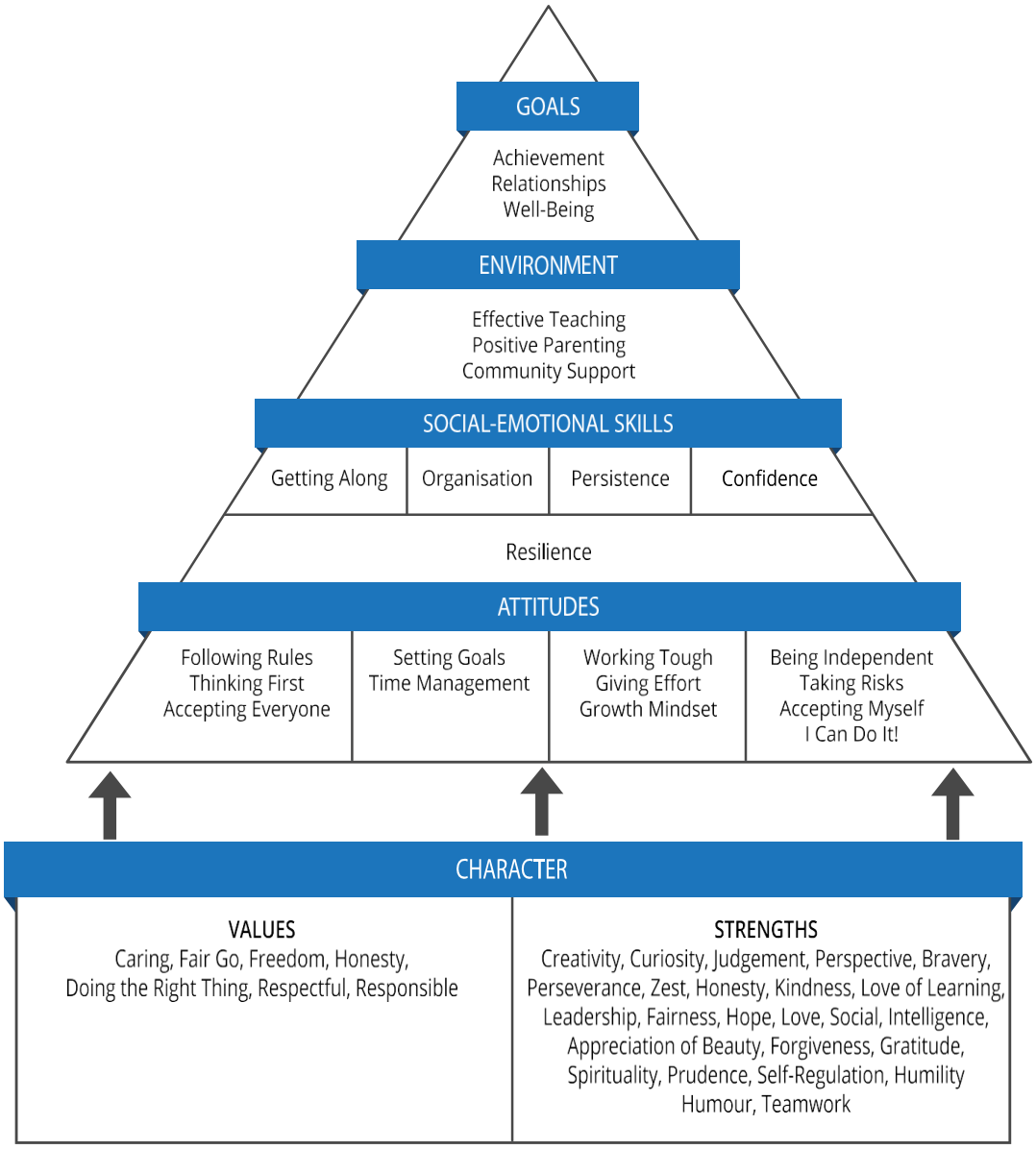
Historically, as presented by Bernard, Ellis and Terjesen (in Ellis & Bernard, 2006, p. 3), and also in other books in this field, the cognitive restructuring with children can be traced back to great philosophers and great preachers of ancient history. Socrates was famous for using cognitive restructuring, and what we, today, call critical thinking, when teaching the youth of Athens, a fact for which he was even persecuted amid accusations that he was corrupting them. The father of REBT and CBT is considered to be Epictetus, who tried to use rational cognitive messages when teaching adults and the youth. One of the quotes he remains famous for is: "It is not what happened what disturbs you, but what you think about what happened is what disturbs you." In other words, how the REBT theory puts it, my irrational thoughts/beliefs and expectations disturb me.

One of the first specialists who dedicated his career to working with young people using the cognitive therapy is Alfred Adler. Already in the 1920s, he advocated for the introduction of cognitive approaches in schools, and not only in schools, but also in families. Later, in the mid-1950s, Albert Ellis began using rational-emotive-behaviour therapy with adults and also with children. It proved to be a successful method, and other psychologists were encouraged to use it. By the end of the '60s, a lot of psychologists were using the cognitive restructuring approach. The '70s were considered productive years in this field, due to the multitude of studies that were performed, which proved the validity of the theory, and also due to the foundation of the REBT representative school, in New York, called the Living School: the Institute for Rational Emotive Therapy. It was an institute where people were taught the core principles of rational thinking. The '70s were also the years when a lot of case studies and experimental and quasi-experimental

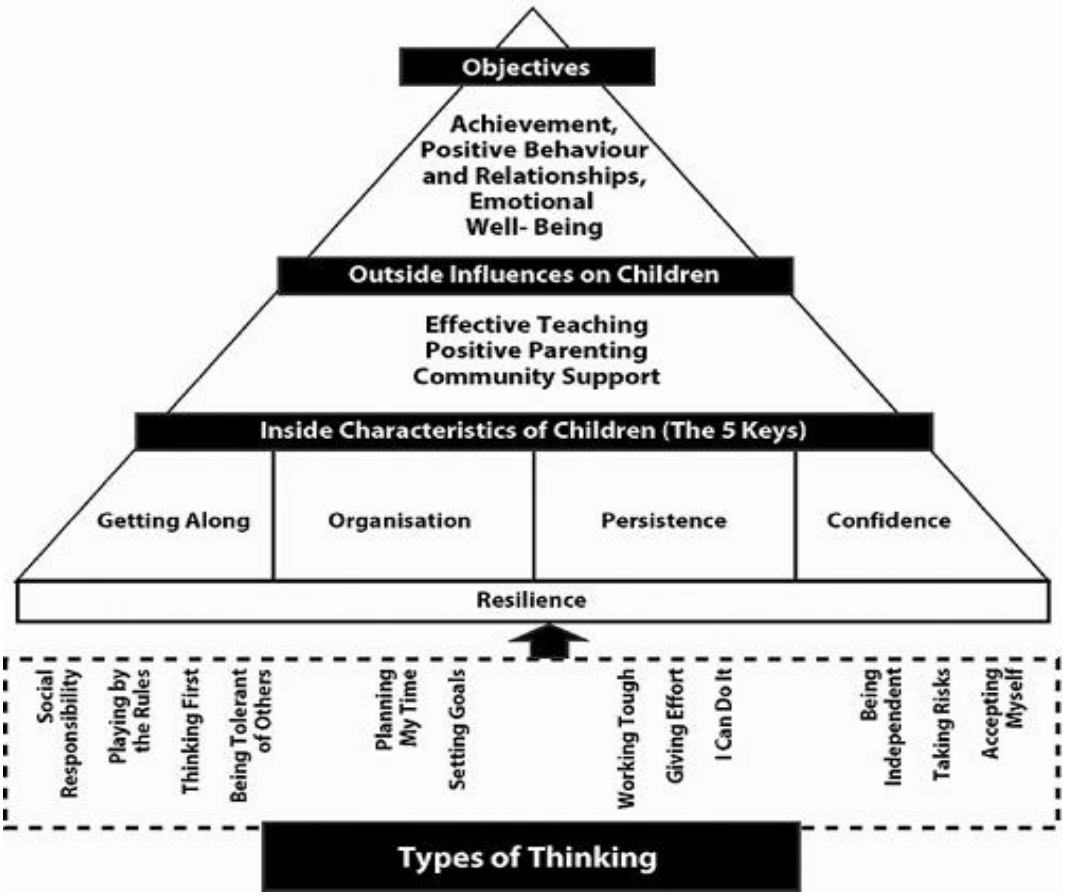
studies were performed using the REBT theory. The conclusion of these studies can be found in the review made by DiGiuseppe, Miller and Trexler (1979), where they stated the following: These studies provide support for the hypothesis that elementary school children are capable of acquiring knowledge of rational-emotive principles and that the modification of a child's self-verbalizations or irrational self-statements can have a positive effect on emotional adjustment and behaviour.

From the '80s to the beginning of the 21st century, the clinical and educational applications of the REBT, from which the YCDI! Education has emerged, have been studied extensively and applied to young people. The overall conclusion of these studies showed that REE is a helpful instrument when helping children and young people achieve at schools and adapt to society standards and conventions, too. Results of some of the research studies that used this method can be found in Section 4.4 of this thesis.

Appendix 2 **Goals of YCDI! Education (new model as updated in 2017)**



Appendix 3 Goals of YCDI! Education (old model)



Appendix 4 Table of contents of the Mentoring Program

Appendix 5 Sample of mentor instructions and class activities

Sample lesson activity: ACTIVITY 1: "Real" Confidence"

Directions: Write a definition of the word "confidence" (you can use a dictionary). Then, think of a person you know who seems to fit the description of someone who has confidence. Think of something this person does that reveals his/her confidence. Write what it is that he/she is probably thinking that helps him / her to be confident. How does this person think when he/she is finding things difficult? Finally, write down what you can learn from this person.

Definition of confidence: _____
_____

A confident person I know:
_____
_____

Describe something this person does confidently:
_____
_____

The thoughts he/she has when being confident:
_____
_____

What he/she thinks when not being successful immediately?
_____
_____

What I can learn from this person?
_____
_____

NOTE TO MENTOR

This is a good activity to use to help your mentees understand more about what it means to be confident. As you know, the YCDI! approach to helping young people develop their potential in to encourage them to use positive thoughts and self – talk that actually provide them with the energy and power they need to be successful.

Examples of some of the thoughts that a confident person has are:

"I am not afraid to make a mistake."

"I am going to be successful."

"It is good to try things even if other people think I am silly or stupid."

Examples of some of the positive thoughts of a confident person has when not being successful are: "I am still capable."

"I will be more successful next time."

"It does not matter that much what people think of me for not being successful."

"This is not the worst think that can happen."

"I don't like it, but I can stand not having been successful."

"Don't give up."

Discussion questions and sample answers

1. "What do you think it means to be confident?"

Sample answer: (Review with mentee **Tips & Ideas – Confidence** handout).

2. What person do you know who seems to be confident?

Sample answer: (Have your mentee review all areas of his/her life, including hobbies, friendship, after-school jobs, sport, etc.)

"Real life" Application

Have mentees find a newspaper article about some person and have them highlight or underline the text that describes elements of confidence in the person.

Example: "Steve, however, was a risk taker, and he gave up the security of a steady job to open up his own self-service automotive repair business."

TIPS & IDEAS

The key of confidence

Definition:

Having the belief that I will be successful in many areas of my schoolwork, social relationships and extracurricular activities (sports, music, art etc.); trying new activities that I might not be perfect at; not being afraid to make mistakes; not being overly concerned with what others think if I try hard in my schoolwork, and expressing my opinion and standing up for what I believe without fear.

Examples of Confident Behaviour…….

- continuing to work on a difficult assignment when you have trouble knowing what to do next.
- standing up in front of the class and giving a speech.
- raising your hand in class to answer a question.
- working independently without asking the teacher for help.
- speaking loudly and clearly when speaking in class.

Confidence – Building Habits of the Mind

Accepting Myself …..not thinking badly of myself when bad things happen.

Taking Risks ……thinking that I will try to be the best I can without needing everything to be perfect and that I am not afraid to make mistakes.

Being Independent …..knowing that, while it is important to be liked and approved of, I cannot please all people all the time. It is important to stand up for what I believe even if others disagree.

I Can Do It ….believing that I am more likely to be successful than I am to fail.

NOTE TO MENTOR

This Tips & Ideas handout should be presented to mentees and reviewed. Make sure mentees understand what it means to behave with confidence.

Take some extra time to explain the four Habits of the Mind that support someone´s confidence. Indicate that a Habit of the Mind is a way of thinking.

YCDI! Mentoring Session Planning Sheet

Mentee's Name Ian Wilson Date of Session 10 Sept.

Foundation(s) Being Taught Persistence

Habits of the Mind Being Emphasised I Can Do It, Working Tough, Giving Effort

Goals of the Session:

Increase positive self-talk; teach positive Habits of the mind that help persistence; set goal of spending more time working on math

Activities to Use Activity 9, 10

Application to "Real Life" (in between session work for mentee) write down positive talk and use when doing math homework

Discussion of Positive vs. Negative Thinking/Self-Talk: ☑ yes ❑ no

==========

Evaluation of Session

What worked well: Ian seemed to understand difference between positive and negative self-talk

Problems: I talked too much; Ian didn't complete application from previous week

Improvements: Ask more questions; be clearer on instructions for in-between session work.

Appendix 6 Sample of measurement instruments

A. My Keys to Success and Happiness – Student Form

My name	
Today's date	Grade/Year

As best as you can, indicate *how often* you do the following.

	Never		Rarely		sometimes		Often		Very often	
1. I raise my hand to answer a hard question.	1	2	3	4	5	6	7	8	9	10
2. I work hard without asking for help.	1	2	3	4	5	6	7	8	9	10
3. I share new ideas with the class.	1	2	3	4	5	6	7	8	9	10
4. I think it's OK to make mistakes when learning something new.	1	2	3	4	5	6	7	8	9	10
5. I am confident when doing school work.	1	2	3	4	5	6	7	8	9	10
6. I keep on trying even when school work is hard.	1	2	3	4	5	6	7	8	9	10
7. I concentrate well when working.	1	2	3	4	5	6	7	8	9	10
8. I check my work when finished to make sure it's correct.	1	2	3	4	5	6	7	8	9	10
9. I complete classroom and homework assignments on time.	1	2	3	4	5	6	7	8	9	10
10. I am persistent in doing school work.	1	2	3	4	5	6	7	8	9	10
11. I make sure I understand the teacher's instructions before I begin working.	1	2	3	4	5	6	7	8	9	10
12. I have all my school supplies ready and I keep my school bag and desk neat.	1	2	3	4	5	6	7	8	9	10
13. I write down assignments and when they have to be completed.	1	2	3	4	5	6	7	8	9	10
14. I plan when I will do homework so I have enough time.	1	2	3	4	5	6	7	8	9	10
15. I am organised in doing school work.	1	2	3	4	5	6	7	8	9	10
16. I work cooperatively with other classmates.	1	2	3	4	5	6	7	8	9	10
17. I listen and do not interrupt when	1	2	3	4	5	6	7	8	9	10

someone else is speaking.										
18. When someone is mean to me, I talk or tell a teacher rather than fighting.	1	2	3	4	5	6	7	8	9	10
19. I follow classroom rules.	1	2	3	4	5	6	7	8	9	10
20. I get along with others.	1	2	3	4	5	6	7	8	9	10
21. I am good at not getting too down and feeling too hopeless when I get a bad mark or when someone is mean to me.	1	2	3	4	5	6	7	8	9	10
22. I get angry, but I calm down soon.	1	2	3	4	5	6	7	8	9	10
23. When I start to get nervous about meeting someone new or giving a talk, I know how to relax and stay calm**.**	1	2	3	4	5	6	7	8	9	10
24. When my feelings have been hurt or I get very angry, I talk to someone or find something fun to do.	1	2	3	4	5	6	7	8	9	10
25. I am good at bouncing back.	1	2	3	4	5	6	7	8	9	10

Place an asterisk (*) next to the behaviours you would like to be better at doing.

Thank you.

B. Evaluating Students' Foundations for Achievement: Teacher Form

Name of teacher	Today's date
Name of student being evaluated	Grade/Year/Level of student

Do you consider that this student is under-achieving in his/her school work (has the ability to achieve but is under-performing)?

O yes O no

Is this student receiving special education or learning support?

O yes O no

Please indicate subjects/classes and areas of work where you believe the student could be achieving better:

_____

_____

As best you can, please indicate *how often* the student engages in the following behaviours.

	Never		Rarely		sometimes		Often		Very often	
1. Raises hand to answer a hard question.	1	2	3	4	5	6	7	8	9	10
2. Works hard without asking for help.	1	2	3	4	5	6	7	8	9	10
3. Shares new ideas with the class.	1	2	3	4	5	6	7	8	9	10
4. Appears to know it's OK to make mistakes when learning something new.	1	2	3	4	5	6	7	8	9	10
5. Is confident when doing school work.	1	2	3	4	5	6	7	8	9	10
6. Continues to try even when school work is hard.	1	2	3	4	5	6	7	8	9	10
7. Concentrates well when working.	1	2	3	4	5	6	7	8	9	10
8. Checks work when finished to make sure it's correct.	1	2	3	4	5	6	7	8	9	10
9. Completes classroom and homework assignments on time.	1	2	3	4	5	6	7	8	9	10
10. Is persistent in doing school work.	1	2	3	4	5	6	7	8	9	10
11. Makes sure he/she understands your instructions before I begin working.	1	2	3	4	5	6	7	8	9	10
12. Has all of his/her school supplies	1	2	3	4	5	6	7	8	9	10

ready and I keep my school bag and desk neat.										
13. Writes down assignments and when they have to be completed.	1	2	3	4	5	6	7	8	9	10
14. Plans when he/she will do homework so he/she has enough time.	1	2	3	4	5	6	7	8	9	10
15. Is organised in doing school work.	1	2	3	4	5	6	7	8	9	10
16. Works cooperatively with other classmates.	1	2	3	4	5	6	7	8	9	10
17. Listens and does not interrupt when someone else is speaking.	1	2	3	4	5	6	7	8	9	10
18. When someone is mean to him/her, talks or tells a teacher rather than fighting.	1	2	3	4	5	6	7	8	9	10
19. Follows classroom rules.	1	2	3	4	5	6	7	8	9	10
20. Gets along with others.	1	2	3	4	5	6	7	8	9	10
21. Seems good at controlling how down he/she gets when something bad happens, like getting a bad mark or when someone is mean to him/her	1	2	3	4	5	6	7	8	9	10
22. When angry, can calm down quickly.	1	2	3	4	5	6	7	8	9	10
23. Seems good at relaxing and staying calm when meeting someone new or giving a talk.	1	2	3	4	5	6	7	8	9	10
24. When his/her feelings are hurt or when he/she has been angry, he/she talks to someone or finds something fun to do.	1	2	3	4	5	6	7	8	9	10
25. Seems to be generally good at bouncing back	1	2	3	4	5	6	7	8	9	10

Place an asterisk (*) next to the behaviours you would like the mentor to work on with the student you have rated.

Thank you.

C. Student-related teacher stress survey

To what extent do you get stressed out when students in your class…

	Not at all	A little	Neutral	A lot	Extremely
1. Use mobile, iPods, MP3 players, laptops, etc. during the lesson.	1	2	3	4	5
2. Leave the classroom without asking for your permission.	1	2	3	4	5
3. Talk while you are instructing or other students are working.	1	2	3	4	5
4. Arrive late for class and especially tests.	1	2	3	4	5
5. Are verbally aggressive towards you and other students (swear and curse).	1	2	3	4	5
6. Disturb other classmates and you.	1	2	3	4	5
7. Do not want to raise their hand to answer questions.	1	2	3	4	5
8. Do not work hard and are too dependent on your help.	1	2	3	4	5
Do not share new ideas with the class	1	2	3	4	5
10. Are afraid of making mistakes when learning something new.	1	2	3	4	5
11. Are not confident when doing school work.	1	2	3	4	5
12. Do not continue to try when school work is hard.	1	2	3	4	5
13. Do not concentrate well when working.	1	2	3	4	5
14. Do not check their work when finished to make sure it's correct.	1	2	3	4	5
15. Do not complete classroom and homework assignments on time.	1	2	3	4	5
16. Are not persistent in doing school work.	1	2	3	4	5
17. Do not make sure they understand your instructions before they begin working.	1	2	3	4	5
18. Do not have all of their school supplies ready and do not keep a neat desk.	1	2	3	4	5
19. Do not write down assignments and when they have to be completed.					

20. Do not plan when they will do homework to have enough time to finish it.	1	2	3	4	5
21. Are disorganised in doing school work.	1	2	3	4	5
22. Do not work cooperatively with other classmates.	1	2	3	4	5
23. Do not listen and interrupt when someone else is speaking.	1	2	3	4	5
24. When someone is mean to them, they do not talk or tell a teacher. They rather fight.	1	2	3	4	5
25. Do not follow classroom rules.	1	2	3	4	5
26. Do not get along with others.	1	2	3	4	5
27. Do not seem good at controlling how down they get when something bad happens, like getting a bad mark or when someone is mean to them.	1	2	3	4	5
28. When angry, cannot calm down quickly.	1	2	3	4	5
29. Seem bad at relaxing and staying calm when meeting someone new or giving a talk.	1	2	3	4	5
30. When their feelings are hurt or when they have been angry, they cannot talk to someone or find something fun to do.	1	2	3	4	5
31. Seem to be generally bad at bouncing back	1	2	3	4	5

Appendix 7 College students' feedback on the programme

"The first semester of PDP was pretty intense to me, mainly because of the weekly file we had to go through. In the beginning, I was sceptical about this weekly file, but later on I found some really handy tips. I found it especially helpful for planning, where I got tips and tricks for improvement. In the first weeks I found it hard to keep up with the weekly homework but when I started to plan in my agenda it became a lot easier. To put it in a nutshell: during PDP this semester, I gained some new insights about planning skills, how to survive here about rules and procedures and also some tips to improve my ability to be more organized and persistent in my school work."

"Since I started the study course in February, I learned a lot about different learning strategies and how to stay organised, confident and persistent, and mostly how to believe in my own capabilities. I have some issues with that. The weekly assignments helped me to find out what my strengths and weaknesses are and practise lots of skills. The meetings with my coach were also very helpful, because I could reflect more on what and how I could improve myself, and Tatiana had some really helpful advice."

"To learn something new was very hard for me the first time when I did my *abitur* [in Germany, a set of examinations taken in the final year of secondary school]. I had to learn how to learn. I also found very hard to get in contact with people and socialize without being afraid. Learning and practicing the strategies in the YCDI! program, I learnt how to study and believe in myself. Now that I how to study, I am trying to improve my learning skills. I know now when I have to start learning and how to adopt a positive attitude towards what I need to learn. Wat I really can improve even more is the skill to prioritize my study subjects and start in time, and not do the complete work a week before the exams."

"During the PDP workshops and individual meetings with the coach we could learn some theory of personal development and compare it with our own behaviours and attitudes at school and in real life. Applying those made school easier. I also learnt that I can also use these strategies in private situations, too. It is not only school-related "

"I felt that my personal meetings with the coach went really well. It was nice to see that there was someone checking on us and showing us how to plan and stay on track. I also learnt how to cooperate in group projects. This was not my strongest quality. We also needed to solve some communication and procrastination issues there. I almost gave it up, but I am happy my coach helped us and told us how to fix it. It was nice to have someone who asked us if we needed help, or how far we were on our assignments and offering help and advice. It is nice to know that there is someone out there who truly wants to help you."

"I would like to thank my tutor Ms. Ciff-Naaijer for the PDP workshops and for coaching me during this semester. It was sometimes hard to find everything and know how to do things, but the skills I learnt during classes and coaching sessions made everything a lot easier."

Appendix 8 Paul and Elder critical thinking model

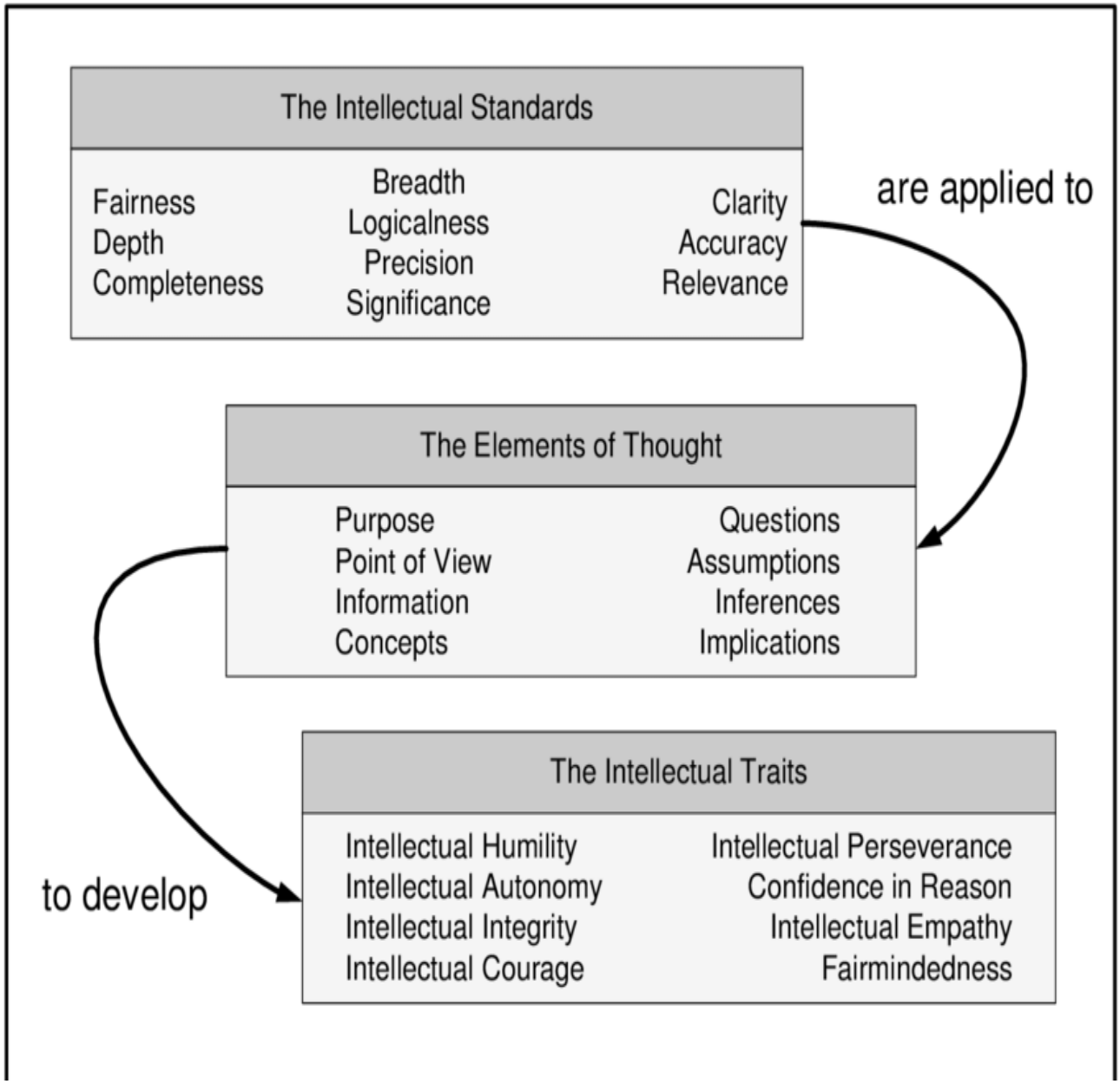


Figure: Paul and Elder (2014) Critical Thinking Model.